ARCHITECTURAL RECORD

9

September 1961

Idlewild feature

The Hartford Building, Chicago

Building Types Study: Hotels-Motels

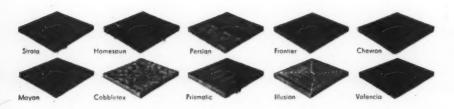
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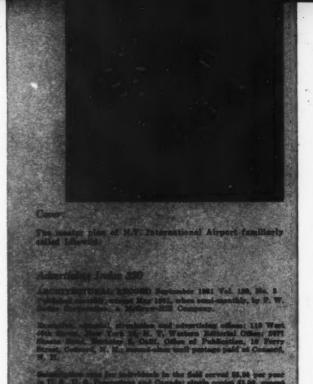
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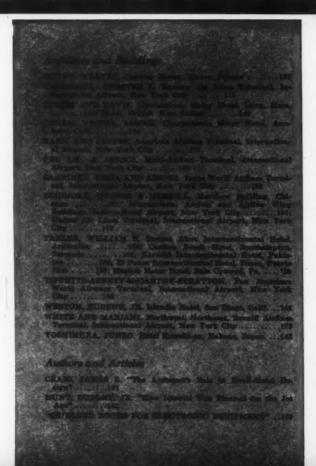
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HOW ARCHITECTS DESIGN VALUE INTO SCHOOLS

Isn't the budget always a problem (whether admittedly "minimum" or not)?

And doesn't the architect spend the most significant part of his effort to produce the highest possible quality at whatever budget level? Next month's Building Types Study on Schools will provide impressive testimony to the

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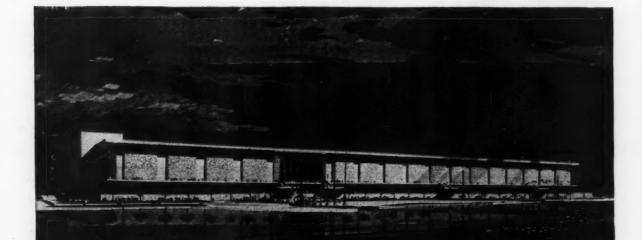
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PRODUCTS SPECIFIED TO WATER-PROOF AND VAPOR-PROOF CHICAGO'S NEW \$35,000,000 EXPOSITION CENTER



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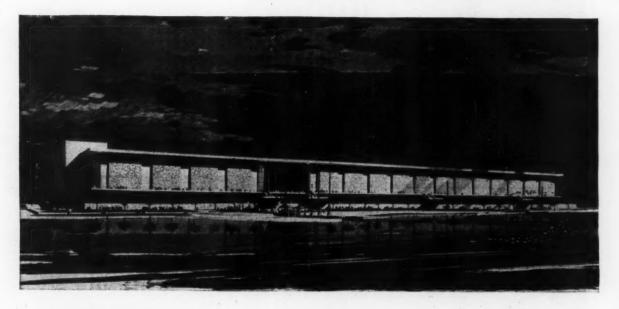
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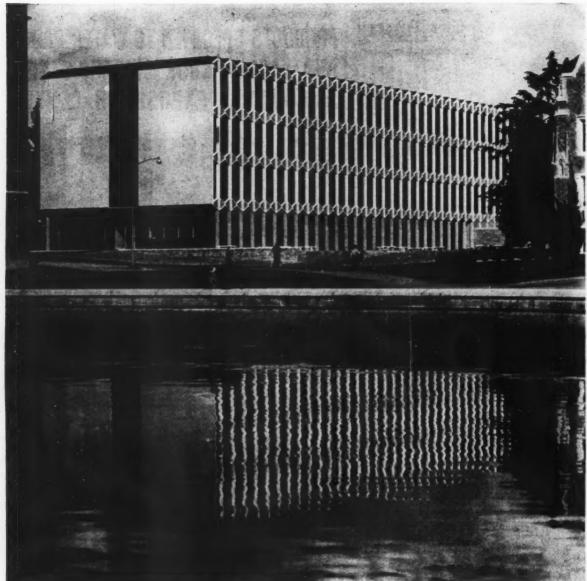
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Recognition for Engineers

We were regretting (this space, last month) the almost disdainful response of young architectural professors to the call of technology in the training of architectural students. The real point in it all is that we need better technology in building design than we commonly get. Nobody is specifically trained for the technical or engineering problems of building design—nobody, not architect, nor engineer.

Not engineer, not architect. If a young man were to feel an urge to study building design in the technical sense, he would be pretty well barred from advancing his ambitions in our current college curricula. If he were in architectural school, he would have to concentrate so heavily on esthetic design that, unless he were really gifted there, he would not be able to graduate from an architectural course. If he were an engineer, say electrical, he would have to study motor-generator design, transmission systems, electronics, and what not. He would probably get smart and go into missile programs.

The result of this, as Robert Hastings, of Smith, Hinchman and Grylls, has pointed out, is that we don't offer much recognition either to the "architect-engineer" or to the engineer interested in buildings; we lose that kind of lad to other professions. We are not offering good enough attractions to engineers to attract them to building design either before or after their schooling.

The point is enforced, indirectly perhaps, by Clinton Gamble, A.I.A., in a letter of transmittal for his little piece (to come) on how his office has used architectural and engineering draftsmen interchangeably (to a certain extent.) He writes:

". . . There are still some kind of built-in antagonisms in the engineering designers. When I try to pinpoint it I find it goes on even between the designers themselves. You see, basically I have an idea the design of mechanical equipment is a matter of making a lot of personal empirical decisions. Even the catalog information winds up being in this category. So a fierce personal defense by the designer is constantly necessary. I feel like an innocent by-stander caught in a gun battle between rival mobs. Probing this matter deeply in the pages of the RECORD would very likely lead to bloodshed ...

"My point is, of course, that we have moved so rapidly into the extensive mechanization of our spaces that we have borrowed a lot of engineering services from other fields, not building oriented. When we get mechanical designers who only know how to work exclusively on building problems perhaps they will feel comfortable enough in this environment to not be constantly antagonized by the interference and probing of laymen like myself. This cannot happen over night but I'd like to think our small changeover in our own office is a small step in the right direc-

Well, I doubt if bloodshed is imminent. But Gamble's comment does highlight the need for attention to the technical problems of building design, among both architects and engineers. His plan of attack is to get architectural and engineering draftsmen working together. But maybe a little recognition wouldn't be a bad idea.

-Emerson Goble

Speaking of Architecture

WHY AREN'T ARCHITECTS PLANNING U.S.A. INSTEAD OF MONUMENTS?

Architect Edward Durell Stone Asks a Big Question In Interview with Architectural Student Jonathan Barnett

Are you supposed to ask me questions, or can I just start with something that has been on my mind for a long time [Mr. Stone began]?

Go ahead, by all means.

What I would really like to do is indulge in a little simple arithmetic. It seems to me that an architect is not entrusted with any important works until he is about fifty. Maybe there are some exceptions to this; but, in general, architecture is just not a young man's profession. It belongs to the men who are, say, between fortyfive and sixty-five. There are just about twenty years when people trust you enough to let you work with large sums of money-and all building projects today involve millions of dollars, no matter how innocent they seem in the beginning.

So let us say you have twenty years. Now I think of the architect as a creative person. I think that ideally his buildings should bear his stamp and signature. Buildings have grown so complicated technically, and involve so many consultants, that it seems to me it would be difficult for such an architect to account for more than two or three buildings a year.

So that in twenty years' time you might do fifty buildings.

To me, that seems a very modest attainment, measured against the tremendous volume of building done in this country. What I'm leading up to is that buildings have become so demanding of the architect's time that, as the years go by, the architect is becoming less and less accountable for the overall building of our country.

At some juncture architects have to reflect on their destiny. They must decide whether placing potential masterpieces in the midst of chaos and disorder—as you must acknowledge most of our cities are—is the career that they had bargained for.

We are turning out bits of consumer goods for a prosperous society which refuses to face any of the important issues of planning.

I'm not chronically a pessimistic person; in fact I'm constitutionally

more a Pollyanna type: but these are the stern realities.

With private ownership of property it is very difficult to make drastic changes. We have dropped 50 million automobiles into cities that were planned for the horse and buggy. Without some drastic overall planning, our living conditions will continue to get steadily worse, instead of improving. Twenty years from now we may find that our cities are obsolete.

The skill of individual architects in Russia is not what ours is, and never has been—traditionally. Nevertheless, working on the plan for rebuilding Moscow alone there are thirteen divisional offices, with 200 architects in each. This is the kind of work I think architects here should be doing.

But, as you say, it is difficult to produce such sweeping changes in a democratic society. How could such reforms be accomplished here?

I hopefully would wish that this could be accomplished by education and the willingness of communities to estabblish high standards of excellence that would combat the negative forces. And I think that, first of all, the government has to be made to see this.

Then you would support the proposal for a Department of Urban Affairs? I think that such a department will have to be. I've thought about this for a long time. We don't seem to realize that what is built is an enormous part of our national wealth. I've always said that the Department of Agriculture would be a good prototype. Look at the progress in contour plowing and flood control we have had in the last generation. We should have a similar educational force to guide the planning, the physical destiny, of our whole country.

I think this is very important. The situation is desperate. In my time I have seen Long Island ruined, it used to be a park. Cape Cod used to be a reminder of our past, but anything is considered progress as long as you

can turn a fast buck.

If you keep your eyes open as you travel across the country, you see how ugly, how pathetically ugly, everything has become. And it hasn't taken us long to get it that way.

All these things point out the futility of architecture as we practice it today. You might, if you're lucky, produce a great building. In the meantime, the country is a shambles.

What about the theory that modern architecture would reëstablish a vernacular, and thus restore the vitality of all building?

The office building is now in a pretty well-formulated vernacular. Are you very encouraged by that?

But couldn't you say that the architect's job is to develop prototypes? I used to think that was what we were doing; but when you see the debasement of these ideas by commer-

I've about given up the idea.

they look pretty depressing.

How then would you define the architect's task?

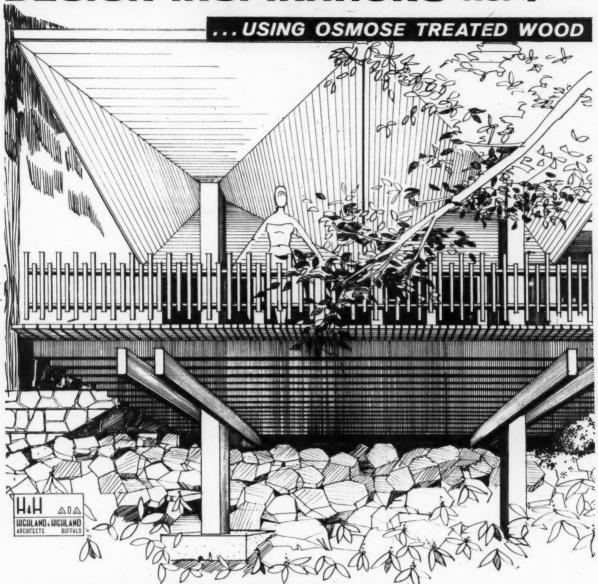
cial approximations of them-why,

I think that as informed observers it is beholden to us to point out to our communities and to the Federal Government the shambles that we have, to try to make everyone else see as we do.

I think the architects and planners and landscape architects of each state should be retained by the Federal government to undertake the planning of each state: its villages, its towns, its cities. We always build in this country as if we were tenants. Now we have to husband our resources, we have to think of future generations. We need plans, overall plans, that anticipate 50 or a 100 years of growth.

I think that too often architects are engaged in a game among themselves. It is a delightful game, to try and find new and unusual and beautiful things; but we aren't working on fundamental problems of real concern to the future of our country.

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The SUSPENDED DECK

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State

Buildings in the News

WINNERS ANNOUNCED IN THIRD ANNUAL MASTIC TILE COMPETITION

Winners have been selected in the Third Annual \$25,000 Architects' Competition sponsored by the Mastic Tile Division of the Ruberoid Com-

Extending the concept of two previous competitions which were concerned with housing, educational and recreational facilities for middle-income families, the third competition called for the development of hospital facilities on the same project site devoted to the community educational-recreational plant. "Long-Range Planning for the Medical Care Facilities in the Community" was the 1961 theme.

The program asked development of a coordinated hospital system on the general framework formulated by the U.S. Public Health Service. Suggested was consolidation of the community clinic with the rural hospital to form a suburban general hospital. This would be expanded into a larger district hospital with full complement of specialty services and staff teaching programs.

Jury panel head was E. Todd Wheeler, F.A.I.A., director of hospital planning, Perkins and Will, Chicago, and chairman of the A.I.A. Committee on Hospitals and Health. Other jury members were: Donald S. Nelson, F.A.I.A., Broad and Nelson, Dallas; Donald E. Neptune, A.I.A., Neptune & Thomas and Associates, Pasadena, Calif.; James J. Souder, A.I.A., Kiff, Colean, Voss and Souder, New York; Ray E. Brown, director of the graduate program in Hospital Administration, University of Chicago. Professional adviser was A. Gordon Lorimer. F.A.I.A., New York.

Two categories of prizes were awarded. All 100 qualified entries were eligible for national awards with a special group of prizes for students. For the first time a major prize was won by a group of students.

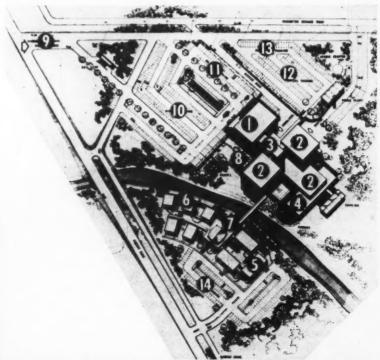
Shown on these pages are the national grand, second and third prize winners. \$500 national merit awards went to: Miller Edward Gerardy and Richard W. Cramer, Oklahoma State

University; Masao J. Itabashi and Harutun Vaporciyan of Smith, Hinchman & Grylls Associates, Inc., Detroit; Pacifico Balcalzo and Borivoj Rieb of A. Epstein & Sons, Inc., Chicago; Marvin Berman and Stanley S. Kogan of Berman & Kogan, Los Angeles; Alan Bentley Glass, Forrest L. Johns and David M. Griffin, Oklahoma State University; Ted Granzow of Skidmore, Owings & Merrill, New York, Robert D. Guss Jr. of Edward Durell Stone, New York, and Dellas H. Harder, Ohio State University.

The \$2000 first student prize winner is also shown. \$1000 second prize went to Miller Edward Gerardy and Richard W. Cramer, Oklahoma State University; \$500 third prize, to Don Dommer and Gordon Kovell, North Dakota State University; \$250 merit awards to: Stanley E. Abercrombie Jr. and John M. Ellis, M.I.T.; Blythe S. Brewster, Pratt Institute; John L. Lawler, University of Minnesota; William E. Pedersen Jr., University of Minnesota.

\$10,000 Grand Prize: Victor A. Cusack and Ronald Meza of Charles J. Luckman Assoc., Beverly Hills, Calif., and James S. Moore of Medical Planning Assoc., Beverly Hills. "A well-conceived, well-balanced plan for hospital operation and economy of hospital construction, relating well to present services and those to be added in future . . . expresses the suburban quality called for"

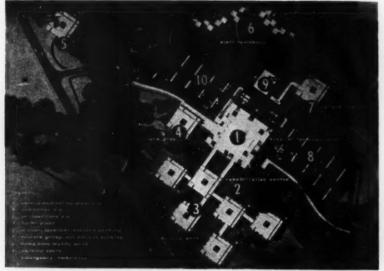




1) Clinic and Adjunct Building 2) Nursing Unit 3) Vertical Circulation 4) Long Term Nursing 5) Dermiteries 6) Married Students' Units 7) Student Center 8) Out-Patients' Patie 9) Main Entrance 10) Visitor Parking 11) Doctors' Parking 12) Nurses' Parking 13) Employees' Parking 14) Student Parking



1) General Hospital 2) Psychiatric Hospital 3) Dectors' Offices 4) Medical School 5) Resident Dectors' Housing 6) Nurses' Housing 7) Interns' Housing 8) Recreation 9) Public Parking 10) Out-Patient Parking 11) Staff Parking 12) Dectors' Parking

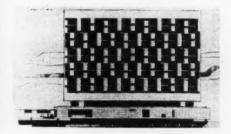


1) Hespital Facilities Core 2) Rehabilitation Center 3) Nursing Units 4) Doctors' Group 5) Old Age Home 6) Staff Residence 7) Nurses' Residence 8) Visitor, In-patient, Doctors' Parking 9) Boiler Plant 10) Doctors' Group, Out-Patient Parking

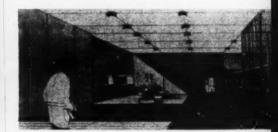


1) Hospital 2) Parking 3) Staff Parking 4) Married Staff Apartments 5) Nurses' Apartments 6) Intera's Apartment 7) Pavillon Classroom Facilities 8) Patient Cottages 9) Administrator's Residence 10) Residence and Service Drive

\$5000 Second Prize: Jimmy W. Bruza, James F. Knight, James S. Daley and William C. Watson Jr., Oklahoma State University. "One whose concept captures the best of accepted hospital planning received, with an architectural approach, technique that is direct and concise... pleasing mass relationships"



\$2500 Third Prize: John V. Sheoris of Harley Ellington, Cowin and Stirton, Inc., Detroit, and William J. Johnson and Clarence Roy of Johnson/Roy, Ann Arbor, Mich. "A very ingeniously thought out scheme . . . its non-hospital look, through dispersion, attempts to recognize the countryside atmosphere of the site"



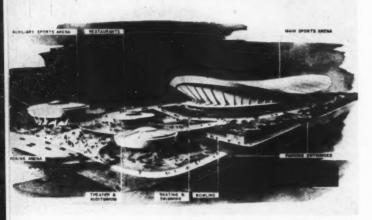
\$2000 First Prize (Student Group): Alan Bentley Glass, Forrest L. Johns and David M. Griffin, Oklahoma State University. "A good clean standard solution, pleasantly disposed on the site, grows easily and has an overall expansion plan well thought out . . . economically the plan would fit into a suburban financial program"



PENN STATION: SITE FOR NEW MADISON SQUARE GARDEN



Madison Square Garden Center, to be built over Penn Station



Earlier design for undisclosed site



Eighth Avenue Entrance to projected new Garden

A new \$75 million Madison Square Garden Sports and Entertainment Center designed by Charles Luckman Associates will be built over Pennsylvania Station, New York City. Another year will be required to complete architectural and engineering specifications for the 3½ million sq ft center and two additional years for construction. The site of nearly nine acres and air rights over Penn Station facilities and tracks is to be acquired by Madison Square Garden Center, Inc., formed by Graham-Paige Corp. and the Pennsylvania Railroad.

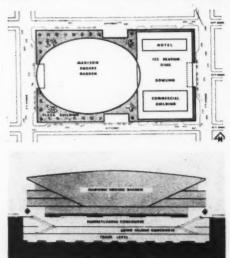
The project will comprise a new, larger Madison Square Garden to seat 25,000; a 4000-seat auxiliary arena and roof-top ice palace, a 750-room hotel of 28 stories, a 34-story commercial building which will include a major bowling center and shopping areas.

Of the total floor area, the Center will occupy 2,347,000 sq ft and Penn Station, 1,092,000 sq ft. The existing Penn Station will continue to operate during the construction period. At its completion, an all new Penn Station will occupy the concourse level areas. Complete facilities of the station will continue to function at concourse level throughout construction.

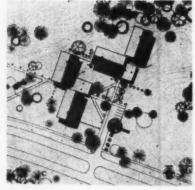
Peripheral commercial areas, intercommunicating circulation and service areas for the entire Center will be contained in the Plaza Building, which will rise three stories above street level and cover the entire site.

Shown on this page is a rendering of the presently proposed Madison Square Garden Center, a site plan and a cross section. Also shown is a rendering of an earlier design for the Center by Charles Luckman Associates, announced last year for an undisclosed location.

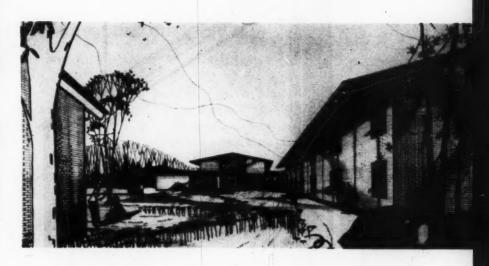
The principal structure of the Center, the new Garden, will consist of radial reinforced concrete cantilever ribs, rising upward and outward to support the seating and terminating in an elliptical concrete compression ring at top.

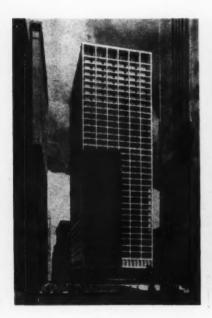


Buildings in the News



Michigan State University Oakland Students' Residence Units, designed by Louis G. Redstone, Architects, Inc., Avner Naggar, Assoc. Architect, will be grouped to form villages. Each dorm's two wings will have "flexible connection," a one-story lounge and house-master apartment







(far left) To be built under New York City's newly adopted zoning code, this \$36 million 32-story office building designed by Skidmore, Owings & Merrill will occupy little over half the site. Structure will have masonry facade with horizontal sunshades. For two major tenants it will be divided in half functionally, with separate entrances, lobbies, elevator banks. Owner: Erwin S. Wolfson; contractor: Diesel Construction Co.

(left) Construction has begun on \$5 million 17-story First National Bank Building, Albuquerque, N.M., to be focal point of a 5½ acre site known as First National Center. With an exterior of white reinforced concrete and gold ceramic tile and glass panels, the 212-ft structure will be supported by outer walls and core. Architects are Flatow, Moore, Bryan and Fairburn; general contractor: the Webb Corp.

Addendum:

Through a printer's error, the captions on these photos (August, p. 12) were transposed

(right) Vincent Kling designed this 28-story square office building for Baltimore. To be completed by fall 1962, the 360-ft-high structure comprises approximately 400,000 sq ft. Exterior metal and glass wall provides deeply splayed window jambs for built-in sun control. Developers: Blaustein and McCloskey & Co.

(far right) United States Gypsum Building, Chicago, designed by Perkins & Will, is diagonally placed on site, providing space for streetlevel plaza. Each face of 17-story building has four white masonry material columns with black spandrel area between each floor. Completion is slated for early 1963

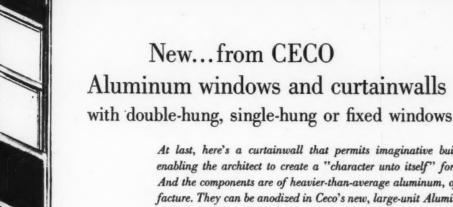






ARCHITECTURAL RECORD September 1961





At last, here's a curtainwall that permits imaginative building designenabling the architect to create a "character unto itself" for each building. And the components are of heavier-than-average aluminum, of custom manufacture. They can be anodized in Ceco's new, large-unit Alumiliting plant, the most modern in America. They are practical and reasonably priced, made so through design engineering.

This new series (160 for double-hung windows, and 165 for single-hung) means erection speed for the architect and contractor, and minimum maintenance for the building owner. Here are some of the reasons why:

- · Sleeving mullions are an integral part of each unit . . . conventional mullions are not needed. This new product permits shadow-line construction at low cost, while providing the same strength as add-on mullions. Material and labor costs are reduced. Available in large units, easy to erect.
- · Double-contact weather stripping on vertical and horizontal sections of operating sash give maximum protection from air and dirt. For minimum maintenance, windows can be furnished with inside bead glazing. This facilitates replacement of broken glass . . . from inside the building.
- · There are no projections with double-hung, single-hung or fixed windows. Windows of this type are ideal for ground level exteriors.
- · Panels of porcelain, ceramic, plastic, steel or stone can be used in several depths without modification of the curtainwall elements, offering the architect creative freedom. This feature allows use of thin panels when back-up walls are required, and thicker panels to satisfy U values without back-up walls.
- To maintain a neat exterior face, all window frames are designed with offsets so exterior screens can be inserted flush with the surface of the curtainwall.

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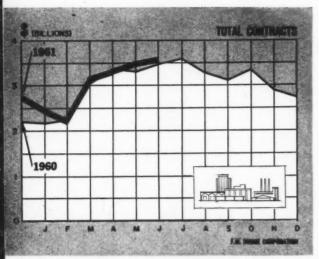
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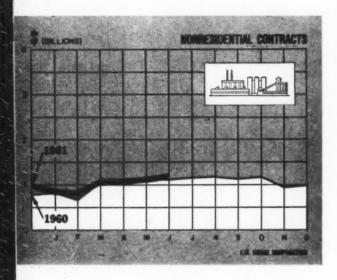
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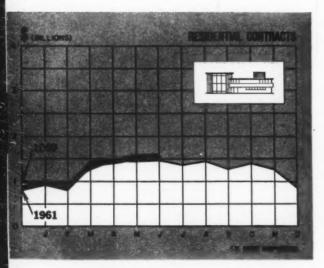
Total Manufacturing for the Building Industry from Raw to Finished Products

Current Trends in Construction



Total contracts include residential, nonresidential, heavy engineering contracts





H(M)OTELS LOOK BIG

THE EXPLOSIVE GROWTH of "motel" and "hotel" building in the late 1950's has raised the inevitable questions. How durable is the trend? Are we in danger of overbuilding, particularly in the "motel" field? Current construction statistics on "motels and tourist courts" are far from gloomy but do contain a cautionary note. After a more than doubling of their dollar volume between 1956 and 1959, contract awards for motels abruptly leveled off in 1960 at \$315 million, fractionally under the 1959 mark. For the first half of 1961, contracts declined three per cent from the same period last year. Sharply contrasting with the recent slackening in the pace of "motel" building, however, is the record of its companion, "hotel" building. Spurred on in particular by the revival of large-scale construction in New York City, contracts for hotels by midyear 1961 had soared 80 per cent over their 1960 level.

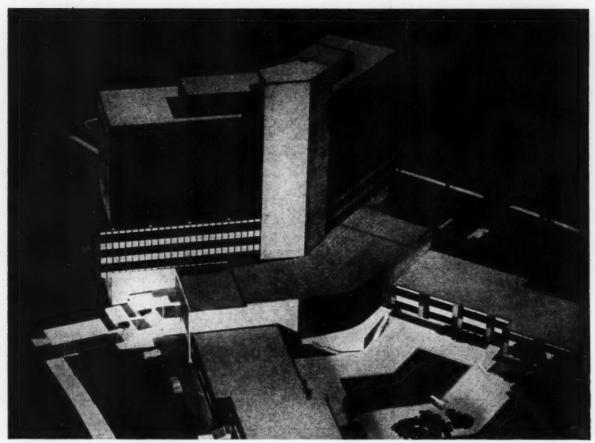
BUT WHAT IS A H(M)OTEL? Even within large cities, it has become increasingly difficult to classify many of the new hostelries as distinct motels or hotels. The emergence of the "motor hotel," combining features of both building types, has made the statistical compiling job a minor nightmare. If, therefore, we consider the two categories as a whole, we find a steadier upward trend in contracts for the period 1956 through the first half of 1961 than exhibited by either "motels" or "hotels" alone. Together these building types provided a more than half billion dollar market for construction materials and services last year, easily an all-time high for any complete year. Another record high was set for the first half totals this year.

LARGELY RESPONSIBLE for the growth of this market has been the increasing popularity of the "motor hotel." As an illustration, take the case of the heavily-travelled stretch of Maine coastline between the New Hampshire border and Portland, Maine. In the peak of the recent summer season, you would have found many "tourist courts" on and off Route 1 practically deserted. Some of the older resort hotels in the area were in serious financial trouble from lack of patronage while operating costs continued to mount. A few had closed down completely. But business was brisk at some of the newer and larger "motels" or "motor hotels." These were offering the auto traveler both the flexibility of the small motel and many of the "extras" of the luxury hotel.

THE "MOTOR HOTEL" certainly appears to represent the "wave of the future" in hostelry building. Some of the reasons are obvious: the increasing importance of the automobile and airplane for business and pleasure traveling (airports make excellent sites for motor hotels); the massive highway construction program; the lengthening of vacation periods and vacation trips. But furthermore, travelers in general are becoming more selective in their choice of lodgings. The traveling public is demanding the combination of convenience and special services that the motor hotel is best equipped to provide.

The decade of the Sixties presents a bright prospect for hotel-motel building. True, the fantastic percentage gains in contracts during the late 1950's probably will not be repeated during the next few years. In this sense, the "splurge" will not last. But the 1960's will be a period of solid growth from the high level of the recent past. That seems assured. Most important to the architectural profession, however, the new hotel-motel market is offering greater and greater opportunities for its active participation. Anyone can design a box cabin with outhouse: but a "motor hotel," that's something else.

EDWARD A. SPRAGUE, Associate Economist F. W. Dodge Corporation A McGraw-Hill Company



GOLDEN TRIANGLE MOTOR HOTEL, Norfolk, Virginia. Architect: Anthony F. Musolino; General Contractor: Blake Construction Company; Mechanical Contractor: Hicks & Ingle Company; Distributor for Anaconda: Hajoca Corp.

6 miles of Anaconda Copper Tube $(\frac{1}{2}"$ to 5") installed "easier and quicker"

This recently completed, six-million-dollar development in downtown Norfolk contains more than 32,000 feet of Anaconda Copper Tube in sizes from ½" through 5" for hot and cold water lines. Why Anaconda Copper Tube? Howard C. Robinette, Division Manager for Hicks & Ingle, says, "We used Anaconda Copper Tube because of the ease in handling and quicker installation. We found it very advantageous in confined areas..."

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Labor and Materials: U.S. average 1926-1929=100

NEW YORK ATLANTA COMMERCIAL AND APTS., HOTELS, APTS., HOTELS, COMMERCIAL AND RESIDENTIAL RESIDENTIAL OFFICE BLDGS. FACTORY BLDGS. OFFICE BLDGS. FACTORY BLDGS. Brick Brick Brick Brick Brick Brick and and and Brick Frame Concrete Concrete Steel Brick Frame Concrete Steel PERIOD 126.7 124.1 128.0 123.6 82.1 80.9 84.5 86.1 83.6 1930 127.0 91.3 104.7 106.5 105.5 72.3 67.9 84.0 85.1 93.8 87.1 1935 130.7 133.4 130.1 86.3 83.1 95.1 94.7 1939 123.5 122.4 97.4 1949 243.7 240.8 242.8 246.6 240.0 189.3 189.9 180.6 180.8 177.5 256.2 254.5 249.5 251.5 248.0 194.3 196.2 185.4 183.7 185.0 1950 263.7 274.9 271.8 212.8 214.6 204.2 205.0 273.2 271.3 202.8 1951 271.9 221.0 278 2 274.R 265.2 262.2 218.8 212.8 210.1 2143 1942 281.0 286.0 282.0 223.0 224.6 221.3 223.0 281.3 277.2 221.8 1953 293.0 300.6 295.4 219.6 219.1 233.5 225.2 225.4 1954 285.0 278.2 300.0 308.3 302.4 225.3 1955 293.1 286.0 225.1 229.0 231.5 231.8 320.1 324.5 235.7 1956 302.2 328.6 237.2 241.7 244.4 246.4 310.8 1957 318.5 308.3 333.1 345.2 330 8 241.2 239 0 248 7 252.1 2547 1958 328.0 315.1 348.6 365.4 357.3 243.0 239.8 255.7 261.9 242.0 1959 342.7 329.0 367.7 386 8 374.1 252.2 247.7 266.1 272.7 273.1 377 7 1960 351.6 337.2 395.8 380.6 259.2 253.3 274.7 282.5 278.8 **April** 1961 357.4 340 2 387.9 409.5 387 8 256.8 250 1 275 2 2840 277.6 May 1961 362.3 342.1 396.8 422.0 396.4 256.2 249.1 275.3 284.2 274.9 June 1961 365.5 345.5 402.6 427.3 400.7 254.8 247.3 275.0 284.0 274.5 1030

195.9 ST. LOUIS

182.3

208.0

June 1961

SAN FRANCISCO

197.6

189.2

191.6

189.9

195.2

June 1961	187.4 183.6 177.9 190.6 179.6				194.3	194.5	195.5	1 199.3	202.	
	% increase over 1939					% Increase over 1939				
June 1961	316.7	303.5	329.9	348.2	332.7	310.8	292.4	346.9	364.8	352.
May 1961	316.1	302.9	329.1	347.6	332.1	310.7	290.7	347.1	367.4	353.
April 1961	313.6	300.9	326.2	343.3	331.0	306.9	289.6	338.9	355.8	344.
1960	311.4	301.0	322.2	337.2	329.2	305.5	288.9	335.3	352.2	342.
1959	305.4	296.4	315.0	329.8	323.9	299.2	284.4	322.7	338.1	330
1958	297.0	278.9	304.9	318.4	313.8	289.8	274.9	311.5	326.7	320
1957	292.0	283.4	295.2	307.1	302.9	286.3	274.4	302.9	315.2	310
1956	288.7	280.3	287.9	299.2	293.3	279.0	270.0	288.9	298.6	295
1955	273.3	266.5	272.2	281.3	276.5	268.0	259.0	275.0	284.4	279
1954	266.6	260.2	263.7	273.3	266.2	257.4	249.2	264.1	272.5	267
1953	263.4	256.4	259.0	267.0	259.2	255.2	257.2	256.6	261.0	259.
1952	259.1	253.2	249.7	255.0	249.6	250.2	245.0	245.6	248.7	249
1951	252.0	248.3	238.5	240.9	239.0	245.2	240.4	239.6	243.1	243.
1950	232.8	230.7	221.9	225.3	222.8	227.0	223.1	222.4	224.5	222.
1949	221.4	220.7	212.8	215.7	213.6	213.0	207.1	214.0	219.8	216.
1939	110.2	107.0	118.7	119.8	119.0	105.6	99.3	117.4	121.9	116.
1935	95.1	90.1	104.1	108.3	105.4	89.5	84.5	96.4	103.7	99.
1930	108.9	108.3	112.4	115.3	111.3	90.8	86.8	100.6	104.9	100

208.0

Cost comparisons, as percentage differences, for any particular type of construction, are possible between localities, or periods of time within the same city, by dividing the difference between the two index numbers by one of them; i.e.:

index for city A = 110

index for city B = 95 (both indexes must be for the same type of construction).

Then: costs in A are approximately 16 per cent higher than in B.

$$\frac{110 - 95}{95} = 0.158$$

Conversely: costs in B are approximately 14 per cent lower than in A.

$$\frac{110 - 95}{110} = 0.136$$

Cost comparisons cannot be made between different types of construction because the index numbers for each type relate to a different U.S. average for 1926-29.

Material prices and wage rates used in the current indexes make no allowance for payments in excess of published list prices, thus indexes reflect minimum costs and not necessarily actual costs.



New Architectural Uses for Aluminum Grating

Here . . . new applications for aluminum grating . . . exacting installations where quality equal only to BORDEN'S will do:

- This shows BORDEN aluminum grating used in a system of drain trenches throughout Mellon Square Park, Pittsburgh, Pennsylvania.

 **Architects: Mitchell and Ritchey, Pittsburgh, Pennsylvania.
- BORDEN pressure-locked type grating, of gold-anodized aluminum, forms the facade of this dramatic new structure. The Congregation Beth El Synagogue, South Orange, New Jersey.

 Architects: Davis, Brody and Wisniewski, New York, New York
- 3 BORDEN pressure-locked aluminum grating fabricated as foot scrapers for use at a school in East Orange, New Jersey.
 Architect: Emil A. Schmidlin, East Orange, New Jersey
- 4 BORDEN pressure-locked aluminum grating used for maintainence-free fencing at J. L. Hudson's Northland Shopping Center, Detroit Michigan.
 Architect: Victor Gruen & Associates, Detroit, Michigan
- Sunshades of BORDEN pressure-locked aluminum grating permit passage of light and air while screening strong sunlight at the Lone Star Gas Company Office Building, Dallas, Texas.

 Architect: George L. Dahl, Dallas, Texas

BORDEN METAL PRODUCTS CO.

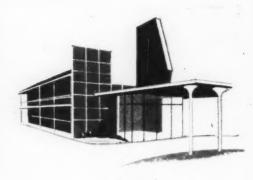
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ARCHITECTS

FREE BOOKLET. Case histories and suggestions for designing the most efficient linen supply services into schools, hospitals, restaurants and motels are available. Men tion booklet(s) wanted.

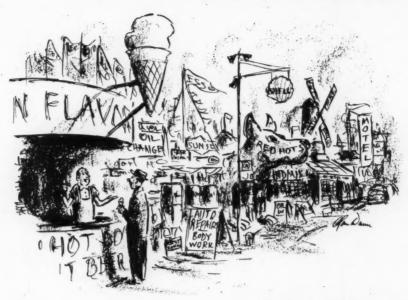


Linen Supply

Association of America

and National Cotton Council - 22 West Monroe Street, Chicago 3

Meetings and Miscellany



-drawn for the Record by Alan Dunn

"What more can you ask? The neutron bomb doesn't destroy structures-only people!"

Caudill Appointed Chairman, Rice U. Architecture Dept.

William W. Caudill, partner of Caudill, Rowlett and Scott of Houston, Oklahoma City and Stamford, has been appointed chairman of the Department of Architecture, Rice Uni-

Gulf Photo

versity. He was to have assumed full responsibility for the teaching program and administration for the Department on September 1. Prof. Caudil will continue to practice architecture, and there will be

no major changes in his firm.

When asked by ARCHITECTURAL RECORD for comment, the new dean had this to say: "This may sound strange coming from Texans, but we at Rice have absolutely no ambition for bigness. We do have high hopes for increased excellence. This should be achieved because our students are highly selected. Every student comes to Rice on a scholarship. The potentials for architectural leadership are tremendous. Who knows, in a few years, we might even have us a great school of architecture, and that would be a switch-to discover that architects can be raised on the Gulf Coast as well as the Atlantic Coast. Of course, we would not wish to disturb the ecology of the architect to the endangerment of the profession, but the profession is already living dangerously.

"About pedagogy: For the time being, Rice is committed to integrated subject matter and team teaching.

"About aims: Rice's purposes are to teach architecture, to create concepts, to see that practitioners apply these concepts, and to produce creative leadership in our profession.

"About teachers: We have three new ones. Bill Lacy, a Caudill, Rowlett and Scott designer, will be my new administrative assistant. Paul Grillo, a highly theoretical and stimulating architect-teacher, will be the fifth year critic. Then, of course, Rice will have me, a hard-nosed practitioner, as the new chairman."

A former teacher and research architect at Texas A & M and a visiting critic at such schools as Princeton, Cornell and Washington University, Prof. Caudill holds a Bachelor of Architecture from Oklahoma State University and a Master of Architecture from M.I.T. He was awarded an Honorary Doctor of Laws Degree by Eastern Michigan University in 1957.

Leon Chatelain Is BRI President

Leon Chatelain Jr., F.A.I.A., was to begin his first term as president of the Building Research Institute on July 1. A past president of the American Institute of Architects, Mr. Chatelain is a partner in the Washington, D.C., architectural firm of Chatelain, Gauger and Nolan.

Elected BRI vice presidents are: Peter B. Gordon, vice president, Wolff & Munier, Inc., New York; Harold D. Hauf, vice president for design and planning, Charles Luckman Assoc., Inc., Los Angeles; and Graham J. Morgan, president, U.S. Gypsum Company, Chicago.

The following have been appointed to serve 3-year terms on the BRI Beard of Governors by the National Academy of Sciences-National Research Council, the Institute's parent organization: Glenn H. Beyer, director, Center for Housing & Environmental Studies, Cornell University, Ithaca, N.Y.; Leon Chatelain Jr.; N. S. Collyer, president, F. H. Sparks Co., Inc., New York, N.Y.; Albert G. H. Dietz, professor, M.I.T., Cambridge, Mass.; John M. Kyle, chief engineer. The Port of New York Authority, New York, N.Y.; Perry I. Prentice, editor & publisher, House & Home, New York, N.Y.; D. Kenneth Sargent, dean, School of Architecture, Syracuse University, Syracuse, N.Y.; and R. J. Short, director of engineering exploration, Procter & Gamble Co., Cincinnati, Ohio. Otto L. Nelson, vice president for housing, New York Life Insurance Co., was named to fill a two-year vacancy on the Board.

Two past BRI presidents, Charles H. Topping, senior architectural & continued on page 26

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Elevators by Westinghouse



Meetings and Miscellany

continued from page 23

civil consultant, E. I. du Pont de Nemours & Co., and Harold L. Humes, vice president, Baldwin-Ehret-Hill, Inc., were appointed ex-officio members of the BRI Board of Governors.

Illinois U. Students Win Awards: A.I.S.I. Competition

Three advanced design students at the University of Illinois, Urbana, Ill., have won top places in a special competition for the design of a repetitive refreshment stand for the 1964 New York World's Fair Grounds. The competition, open to intermediate and advanced design students, was sponsored by the Committee of Stainless Steel Producers, American Iron and Steel Institute.

A jury of architects selected the winners from among 79 entries. First prize of \$800 was awarded Robert L. Amico; second prize of \$600, Richard R. Bermann; and third prize of \$400, Anthony Frangella.

The program required the design to be 1) easily identified 2) unitized, modular and demountable 3) exciting and inviting 4) easily maintained 5) have food preparation, dispensing, storage and trash space within a 400 sq ft area.

Sullivan Mosaics, Stencils Found in Garrick Building

Unknown examples of mosaic and stencil work by architect Louis H. Sullivan were found in Chicago's famed Garrick Building in its final weeks of demolition. Although it was not possible to prevent the destruction of the building, much significant ornament was saved by the combined efforts of the Chicago Chapter of the



American Institute of Architects, the Chicago Chapter of the Society of Architectural Historians and the Chicago Landmarks Commission. A jointly sponsored team of preservationists, directed by Richard Nickel, often worked around the clock to save as much of the ornament from the Garrick as possible.

Beneath the plain asphalt tile of two floor landings, rich mosaic designs of delicate intertwining leaf and tendril motif were found. Because of the imminent demolition of these landings, there was no time for the usual method of moving the design-transfering each of the thousands of tiny pieces of colored mosaic to a new bed of cement. Instead, the team of workers removed the entire concrete floor landings, each weighing more than three tons, intact. Jacked up and cut into sections, the landings were transported by stonemason's truck to Chicago's Navy Pier for storage.

Delicate stencils by Sullivan were discovered under old coats of paint on the theater gallery ceiling and on walls in other parts of the building. Whole wall sections were cut out and transported, as the mosaics, for storage.

New Observation Tower for Niagara Falls



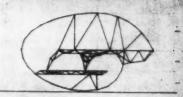
The 282-ft glass-walled Prospect Point Observation Tower designed by Praeger-Kavanagh-Waterbury, engineers and architects, gives sightseers a new view of Niagara Falls. Visitors approach the tower from an observation deck which sweeps out 376 ft over Niagara Gorge. From this they ride up to the top of the tower or down to its base in two elevators. The tower frame is of high carbon steel, box welded to require a minimum of bolting or riveting. The tower and upper elevator walls are highstrength solar-reducing glass. The tower is enclosed in 7 ft sq sheets of this glass set in rubber gaskets in the steel and aluminum frame. Exterior frame is aluminum. General contractor White Plains Iron Works, Inc.



Architecture as Sculpture

The Whitney Museum of American Art plans to devote its entire building to a retrospective exhibition of the work of Bernard Reder, to be held from September 27th to the 7th of November. Mr. Reder is primarily a sculptor, the author of such works as "Two Women in the Jungle," above, but the show will include drawings and a group of eight architectural fantasies. In view of the opinion, held by Philip Johnson and others, that architecture is primarily sculpture, it is interesting to see what happens when a sculptor tries his hand at architectural design. A number of the designs, including the house, below, have been analyzed by Buckminster Fuller's firm, Synergetics, Inc., who have made dimensioned drawings of them and believe them to be capable of realization.





more news on page 66

CHESTER ALL-ALUMINUM POOLS

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Chester all-aluminum pool recently installed on sixth floor setback of new Robert Meyer Hotel, Jacksonville, Fia. General Contractor: Daniels Construction Co. Architect: William B. Tabler, New York.

A modern swimming pool has become a competitive necessity in hotels, motels, and other institutions bidding for public patronage. Profitminded proprietors naturally seek the pool that stays beautiful with the least expense. Proved in a number of leading hotels, as a last-word-glamorous entertainment center to build clientele the Chester all-aluminum pool offers all these important advantages:

- Leak-proof Only pool warranted against cracks, leaks, rust, or seepage. Impervious to climatic rigors, including freezes. Built-in recirculating duct eliminates piping troubles for the lifetime of the pool. All welded fittings — no pipe joints — insure against leakage.
- Takes no ground space Makes extra use, extra profits from available space on rooftop or setbacks. Installable in almost any unused space on slab without hole, suspended between build-

ings, or with cantilevered decks to permit parking underneath. Can be relocated. With minimum adaptation can substitute for water tower.

- Up to 12 times lighter, yet many times stronger.
 Requires less foundation and supporting columns.
- Self-supporting structure reduces site preparation to minimum.
- Low cost, fast installation Less substructure.
 Assembled from factory-fabricated thick-plate aluminum sections delivered to site. Welds vacuum-tested. No service tunnel required around pool.
- For ice-skating—Special freezing inserts quickly convert pool to rink.
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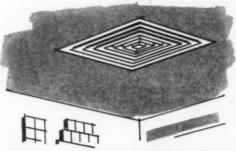
Installation is fast, simple and economical. Expensive ductwork is eliminated, since the unit installs with a single supply and return air duct, thereby requiring only one duct passage to be cut through the roof. Installation is further simplified with only three service connections.

Besides the 48B for heating and cooling, there are two other on-the-roof Weather-makers—the 50AA for cooling only and the 64AA Heat Pump. For information, call your Carrier dealer, listed in the Yellow Pages. Or write Carrier Air Conditioning Company, Syracuse 1, New York.

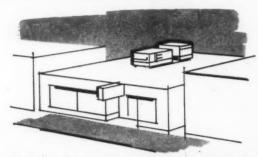
*Reg. U.S. Pat. Off.



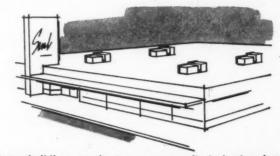
Carrier 48B Air-Cooled On-the-Roof Weathermaker consists of a gas-fired heating section, a fan section and an air-cooled refrigeration section for cooling—all enclosed in a weatherproof casing and mounted on rails. The refrigerant piping is installed and the unit is dehydrated, charged with refrigerant and tested at the factory. Unit is also completely factory wired.



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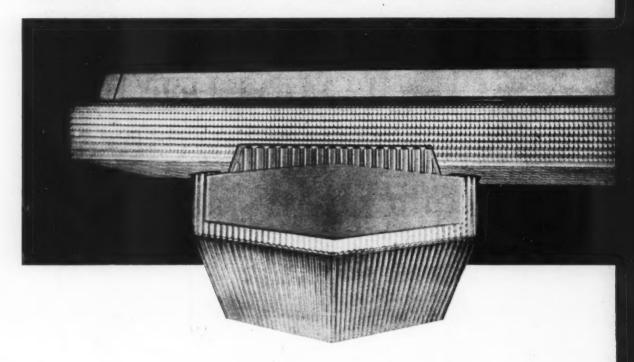
Olin engineers helped design this unique extrusion to serve as the universal junction of movable wall panels. The genius of this extrusion makes it possible to change office size, shape and color in jig time with nothing more than a screwdriver! So many Olin ideas like this have saved so much time and money for fabricators, design-

ers and architects that modesty forbids telling all. As versatile as aluminum is, it doesn't think, doesn't create designs, or doesn't fabricate itself. That's why Olin Aluminum offers you the services of its marketing and technical staff. They "think aluminum." Don't you think it would be a good idea to call Olin?

ARCHITECTURAL RECORD September 1961

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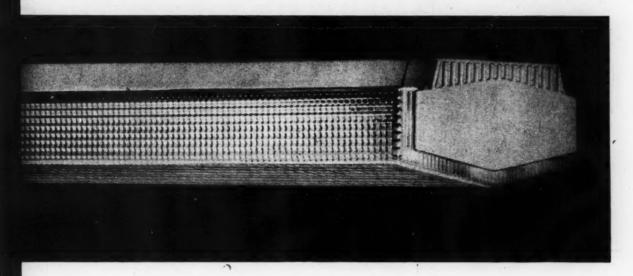
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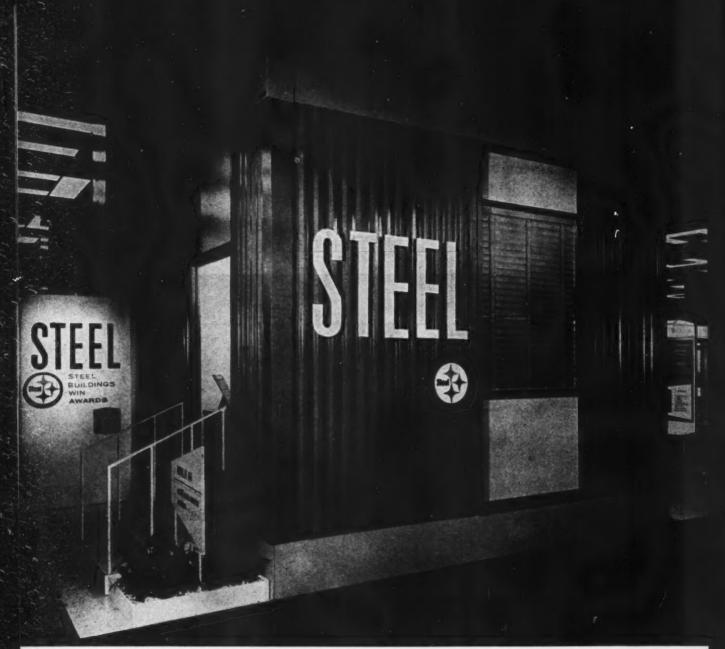
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ARCHITECTURAL RECORD

Western Section[©]

WESTERN SECTION EDITOR: Elisabeth Kendall Thompson, A.I.A.

2877 Shasta Road, Berkeley 8, California

Architecture in a Cocktail Culture

We've grown used to the adage that architecture is a mirror of the way of life, the standards and the accomplishments of a particular time. But perhaps as architects we never should have gone along with this appraisal of the role of architecture.

True, it takes two people to produce a building-architect and client. And the client's needs, if they are not completely individual, are a microcosm of society's needs. In meeting his needs, architecture does mirror something of the culture of a period.

But architecture is not merely a servant for society. Its position as an art is strengthened by its clear purpose, as clear as that of any fine art. It provides useful spaces and space relationships, but these must be beautiful or they do not qualify as architecture.

If architecture is a mirror, it must be impassive, uncritical, uninvolved. But how can architecture be impassive and still be a social art? How can beauty be achieved without involvement? Is architecture an art worked upon by a passing image for only a moment?

All of which leads up to a prediction made by a New York psychiatrist that today's generation will be followed by one which "may be more civilized on the outside, but whose character structure will be shallow," and that a "kind of cocktail party sociability may prevail, a culture of the urbanely un-

involved."

To look at some of the things which are passed off as architecture today, one would think the doctor was describing today's culture, and that the characteristics of that future generation he described-"shallow, unprotesting, without individual identity"-belong instead to these buildings. Modern man, he continues, has lost his identity because of his "adaptation to a constant flow of changing stimuli; any event, indeed any individual, is merely a matter of the moment."

"A matter of the moment": this is what all too many buildings are today. Temporary in appearance, superficially conceived, these are buildings which should be called illiterate, for their designers, ignorant of the meaning of the terms with which they work, use them either superficially or erroneously. They have "caught the cliché and not the essence," as William Wurster succinctly says.

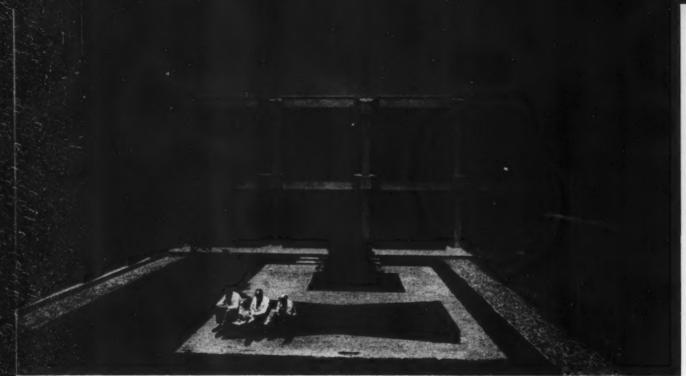
Not all buildings will be great architecture; not all buildings that qualify as architecture can be great. But at least more buildings could be real if their designers would heed the advice that Ernest Hemingway gave an aspiring 19-year-old writer who wrote to him, sending him a story for criticism.

Hemingway wrote:

"I can't help you, kid. You write better than I did when I was 19. But the hell of it is you write like me. That's no sin. But you won't get anywhere with it. Why don't you start again at the beginning and read Kipling and De-Maupassant and Crane and Ambrose Bierce and Flaubert and Mann. Then see the things you write about not through my eyes and ears but through your own with your language conditioned not by me but by all those others. They all wrote well. But write it your own way."

Study the finest. Then look within yourself. Then do it your own way. That's all the advice a true architect needs. Architecture will be no mirror, then, but a missioner, as it should be, as the fine arts at their best have always been. And the moment of which it is part will be not measurable but timeless.

E.K.T.



Rondal Partridge

Rondal Partridge



ARCHITECTS: Gerald M. McCue and Associates

STRUCTURAL ENGINEERS: John A. Blume and Associates

MECHANICAL AND ELECTRICAL ENGINEERS:

Dudley Deane and Associates and Britt and Associates

LANDSCAPE ARCHITECTS: Sasaki, Walker and Associates

GENERAL CONTRACTOR: Rothschild, Raffin & Weirick

LABORATORY DESIGNED TO STIMULATE IDEAS

The Stauffer Chemical Company's new research laboratories at Richmond, Calif., are designed to foster new ideas and to promote their development as much as to provide the essential laboratory areas for the company's everyday work. A variety of work spaces—library, conference rooms, indoor and outdoor areas for informal talk and, of course, several kinds of laboratories—are one means of idea stimulation implicit in the design. Just as important is the building's potential for modification of spaces and for expansion, to permit practical application and development of new ideas. The plan is H-shaped, with administration in one wing, laboratories in the other, and lobby, library, lunchroom and conference rooms in the connecting section. Additions to the wings can be made without disturbing existing offices and labs. The ground floor lunchroom opens onto a landscaped court, overlooked by the "conversation alcoves" of the library on the second floor.

The building is the central unit of a complex now being built by Stauffer on its 16-acre Richmond site.

Cal Pictures



Cal Pictures



Rondal Partridge



32-2 ARCHITECTURAL RECORD September 1961



Massive precast concrete T's, 24 ft high and weighing 54 tons, will carry rail

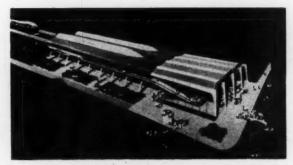
SEATTLE MONORAIL TO GIVE RAPID TRANSIT PREVIEW

Next spring 10,000 persons per hour will experience mass rapid transit between downtown Seattle and the site of Seattle's World's Fair, Century 21, on a monorail line now being built along Fifth Avenue by Alwac International. The 1.2-mile trip will take just 95 seconds. More than just a novelty, the monorail line is intended to ease Century 21's parking problem since visitors can use plentiful downtown parking garages and be at the Fair by monorail in less than two minutes.

But convenience is not without its price. The downtown station has been located in Westlake Mall, originally scheduled by the city to be redesigned as a landscaped pedestrian mall. The size of the station precludes the mall development, now postponed until the line is removed-if this is done-after the Fair.

The monorail line may turn out to be more permanent than Seattleites have suspected. Century 21 will become its owner when the Fair closes and could assign its option to buy to the city of Seattle. Already there is talk of putting a 110-mile-long, \$60,000,000 monorail plan on the ballot in November 1962.

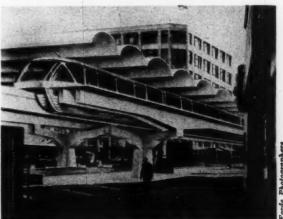
Meanwhile, Fifth Avenue is sprouting more than one kind of tree: some still-spindly green ones in tubs along the sidewalk and, in mid-street, massive T-shaped concrete columns to carry the monorail.



Ground level terminal at Century 21. Adrian Wilson, architect for terminals for Fair and in downtown Seattle

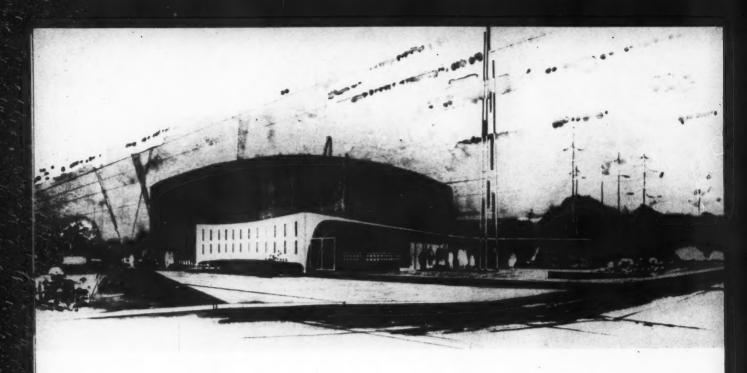


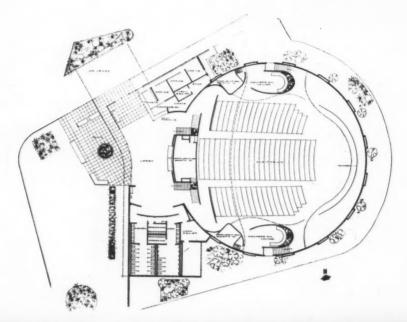
Photo montage of line along Fifth Avenue



Above-ground Westlake Station in downtown Seattle

ARCHITECTURAL RECORD September 1961





James Katzel photos



Canopy of the building was originally designed with a more plastic form; drum is painted brick red

Cooper Theater, Denver, Colorado

ARCHITECTS: Richard L. Crowther & Associates

THEATER CONSULTANT: Mel Glatz

STRUCTURAL ENGINEER: Johnson & Voiland

ELECTRICAL ENGINEER: Sol Flax
MECHANICAL ENGINEER: Clint Cator

CONTRACTOR: Berglund-Cherne Construction Co.



Lobby is unusually spacious to accommodate patrons who come and leave all at one time

FIRST THEATER DESIGNED ESPECIALLY FOR CINERAMA

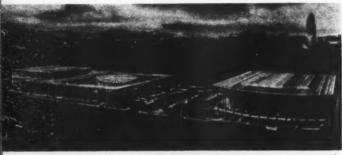
Until this building was completed recently, Cinerama movies had to be shown in movie theaters adapted to the special requirements of screen and projection, but without the provision of certain planning features which this kind of theater needs. Since all seats are reserved for showings, and since all patrons arrive and leave at the same time, and all use the lobby at the same time for intermission, a Cinerama theater is more like a legitimate theater than a movie. The lobby of the Cooper theater is therefore unusually large to accommodate the crowds, and restroom facilities are considerably more spacious than in the usual movie

house. A large patio, accessible from the lobby, offers additional space for intermissions and before and after showings. The ticket counter in the lobby adjoins the concession counter and can be reached by concealed doors from the manager's office. The 825-seat auditorium is circular, and all seating is on tilted "platforms." Three acoustically treated projection booths were designed to meet Cinerama requirements but can be modified to meet other types of projection. The auditorium walls are also acoustically treated. A mezzanine seats 150. The building is in a suburban residential area near a turnpike.





Floor slopes toward stage; hanging grilles are part of acoustical treatment of 825-seat auditorium



STATE STREET

Final Design



First Design

LOS ANGELES TO BUILD MUSIC CENTER

The Music Center which Los Angeles has for so long tried to obtain will be a reality by the end of 1963, according to present plans. Actually a group of three buildings with a landscaped mall, the center will provide for all of the performing arts. The Memorial Pavilion, largest of the buildings, is a 3200-seat auditorium especially designed for symphony, opera and other large-scale performances. The Forum, containing a 650-seat theater will provide for intimate drama, recitals, chamber music, lectures and civic-cultural meetings. The Center Theater is a 1700seat auditorium for legitimate drama, musical comedy and other similar events. The circular Forum building and the Center Theater are surrounded by a 48-ft high colonnade. The mall separates the Memorial Pavilion and the Center Theater, and is accessible from either for promenades during intermissions, and as a pleasant park during the day.

Welton Becket and Associates, architects and engineers for the \$23,000,000 project, originally proposed the design shown at lower left. From this evolved the final design (top left). Construction is to start this December.





U C DAVIS ADDS CAFETERIA TO NEW RESIDENCE QUAD

As part of its program for expanding the curriculum at its Davis campus, the University of California is providing new residence facilities for students. This new cafeteria building, designed by Kitchen and Hunt and John Funk, Architects Associated, with H. J. Brunnier, structural engineer, serves 600 students who live in four residence halls which form a court around it. The building is steel framed, with all connections welded. The cafeteria roof is a series of arches, formed of steel decking painted white on the exterior and light blue on the interior. Red brick walls around the kitchen area provide contrast and color. A recreation room will be added to the present Ushaped cafeteria structure, completely enclosing the inner court.

Civic pride expressed in

MoSai.

MO-SAI WESTERN REGIONAL MEMBERS

OTTO BUEHNER & COMPANY --- 640 Wilmington Avenue, Salt Lake City, Utah

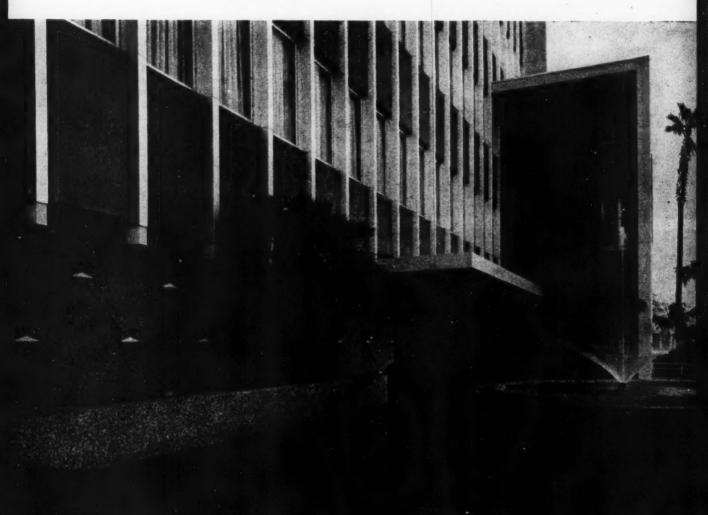
WAILES PRECAST CONCRETE CORPORATION — 11240 Peona Street Sun Valley, California

OLYMPIAN STONE COMPANY — 1415 N. W. Ballard Way Seattle 7, Washington

P. GRASSI-AMERICAN TERRAZZO COMPANY — 1/1 South Maple Avenue South San Francisco, California

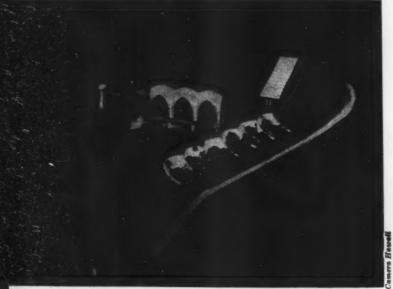
36 Wood Street San Francisco 18, California Tasteful advantage was taken of the inherent design versatility of Mo-Sai to create the new Kern County Civic Center Administration Building and Courthouse in Bakersfield, California. Mo-Sai molded into a graceful bowl forms the fountain, set in a pool surrounded with a Mo-Sai bench border. A translucent quartz aggregate with green matrix was used in the Mo-Sai spandrel panels, imparting a permanent glistening color to the building proper. Contrasting brown Mo-Sai set on 45 degree jointing patterns is accented with small light buff diamond-shaped Mo-Sai buttons on the base course. Mo-Sai walkways of ocean-rounded pebbles lead past the pool to the building entrance. Mo-Sai in any of its many forms and colors is an asset to the architecture of any civic center.

Architect: Ernest L. McCoy General Contractor: Guy E. Hall



AAA





TRADITION AND MODERN TECHNOLOGY BLEND IN HAWAII CHURCH

Kahikuonalani Congregational Church, Pearl City, Oahu

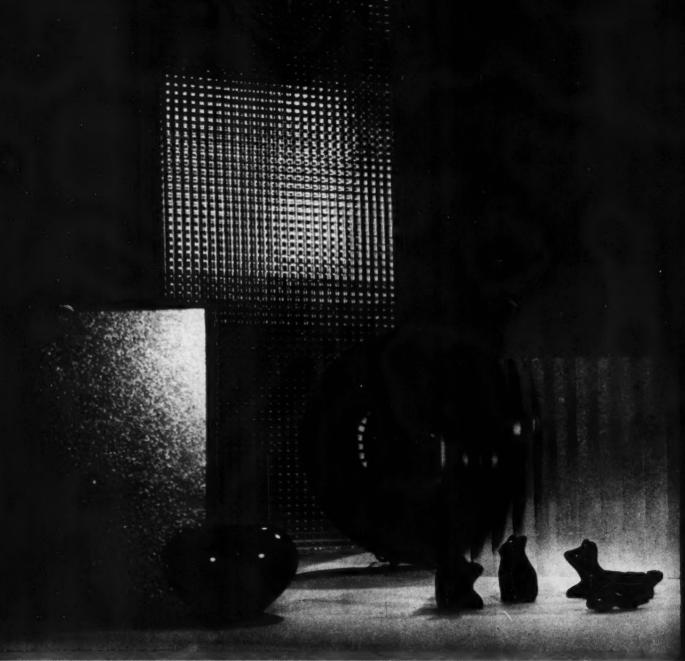
ARCHITECTS:

H. Lockwood Frost and Rossie Moodie Frost STRUCTURAL ENGINEER: Donald T. Lo MECHANICAL ENGINEER: Frederick Kohloss ELECTRICAL ENGINEER: Wynn Nakamura CONTRACTOR: T. Takahashi, Ltd.

An "ecclesiastical look" was a prime requirement for the new church which this century-old congregation wanted to build, and since it was to serve as a setting for impressive wedding and other ceremonies connected with the church, the building had to have the spaciousness which would allow for these ceremonies. The architects chose a structural system which would permit development of a pointed arch to symbolize the ecclesiastical feeling. The structure of the main building uses thin shell concrete, built up with pneumatically applied concrete, painted on the exterior and dusted with dry white cement. This solution proved economical as well as architecturally suitable. Woodwork in the chancel is bleached redwood for the pulpit and organ screen, but the wood floor is to be carpeted. Windows will have glass and redwood-framed jalousies. In addition to the formal church events, the congregation wanted a place for luaus, which they hold instead of church suppers as on the mainland. The natural grades of the site made it possible to put the kitchen and a multi-purpose room on a lower level and to open them directly onto a level play area which is idea! for luaus.



The Original Church built in 1832



COOLITE

MAGNALITE B

Achieving clean, functional, modern design in translucent, light diffusing glass doesn't just happen. It is the result of painstaking research, skilled craftsmanship and manufacturing techniques. That's why figured glass by Mississippi promotes truly functional architecture adapted to present day needs...offers unusual beauty, utility, and variety unmatched by any other glazing medium. And it is the reason why Mississippi's distinctive patterns and surface finishes

blend subtly with any exterior or interior to provide

Pottery by MARIE of San Ildefonso

BROADLITE

dramatic texture that enhances the appearance of any structure. And remember . . .

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COOLITE

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Glass by Mississippi for better daylight is also available in a variety of patterns and surface finishes (with or without wire) that fulfill the primary function of diffusion, decoration, and protection. See your nearby distributor of quality glass.



Coolite, glare reduced one side, installed in ret's Church, Copake Falls, N. Y. Architects: Cataldo & Vikre, A. I. A., Schenectady, N. Y. Glass by: Pittsburgh Plate Glass Company, Poughkeepsie, N. Y. Glazing by: James S. Sucato General Contractor: A. Testa & Sons

Color photo, courtesy of Rev. Gerald F. Millett

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Coolite Wire Glass graces Prince of Peace Lutheran Church, Phoenix, Arizona. A striking example of architectural beauty and perfection of design made possible with translucent, light diffusing glass.

Glazing contractor: W. P. Fuller & Company



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INDIVIDUALLY OWNED APARTMENTS ON NOB HILL: This \$6,500,000, 22-story apartment building on Huntington Park, Nob Hill, San Francisco, will be the first in which apartments will be owned outright by their purchasers instead of cooperatively. The building, designed by San Francisco architects John Carl Warnecke and Associates, is intended to be a "striking showpiece" from the glass-enclosed carriage entrance to the apartments which are to "continue the tradition of Nob Hill." Haas and Haynie are builders and contractors



OUTDOOR COLONY BUILDING AT RESEARCH CENTER: At least 400 primates will live in this building for the outdoor group of animals involved in the scientific research program of the Oregon Primate Research Center now under construction at Beaverton, Ore. The primates will have as much indoor space for care and routine investigation as they will outdoor space for animal runs. The concrete walls are varying height and are covered with aluminum chain link fencing woven in one piece. Skidmore, Owings & Merrill, architects; Cooper and Rosé, structural engineers; Donald M. Drake Company, general contractor



CIRCULAR DEPARTMENT STORE IN BIG SHOPPING CENTER: An unusual element in the Factoria Shopping Center, soon to be built in the Lake Washington district of Seattle, will be a circular department store. The center will be entirely air conditioned, with malls leading to the department store, office building, and ice skating rink. Welton Becket and Associates, architects and engineers



Western Buildings in the News

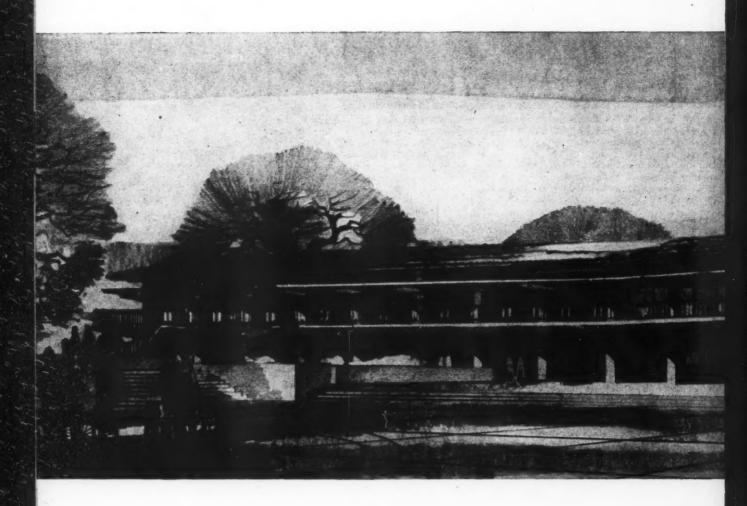




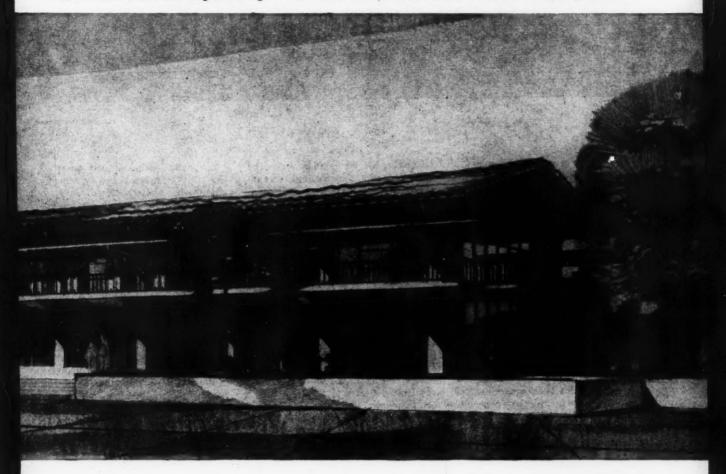


DRIVE-IN: Plywood arches over the stalls of the Royale Drive-In in Fresno, Calif., provide the needed height over each car and a pleasant sun protection for car hops serving the cars. Each car position has its own electronic call system so that orders can be placed immediately upon parking. A patio and a small indoor area for tables supplement the drive-in eating facilities. Edward Avedisian, architect; Vincent Bevill, mechanical engineer; Edward Lowe, electrical engineer; Richard F. Silberstein, structural engineer

MASTER PLAN FOR PRIVATE BOYS' SCHOOL (at left, bottom): The first buildings for the newly formed Charles Wright Academy in Tacoma, Wash., now under construction, will replace temporary quarters in which the school has operated for three years. The gymnasium (center), special classroom and middle school buildings (right center) are due to be finished this month. Eventual development of the campus will group buildings around a large plaza or "town square." Architects are Liddle & Jones; Harold Silverthorn was educational consultant; Davis and Bogue, mechanical and electrical consultants; Francis Dean of Eckbo, Dean & Williams, landscape architect



NOW FULLER GUARANTEES SINGLE RESPONSIBILITY FOR ALL PHASES OF CURTAIN WALL, WINDOW WALL, AND STORE FRONT DESIGN AND CONSTRUCTION Tressider Memorial Union, now under construction at Stanford University, Palo Alto, California. Architects: Spencer and Lee, San Francisco. Structural Engineers: Pregnoff and Matheu, San Francisco. Contractor: Howard J. White, Inc., Palo Alto.



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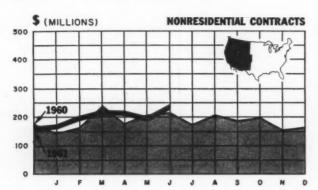
the West • assuming full responsibility for erection and glazing • a full guarantee of all materials and labor, backed by a century of service to Western architects and builders. All these services, of course, are available with no loss of design control or freedom of specification by architect or builder.

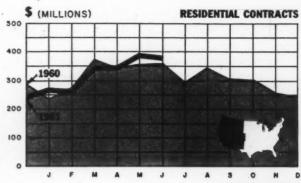
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Western Construction Trends

(For analysis of construction trends nationwide, see page 18)





Construction in the West reached a record high during the first half of 1961. Contract awards for the 11 states west of the Rockies by midyear amounted to \$4.4 billion, 11 per cent ahead of 1960, compared to a gain of four per cent nationally.

All three major sectors of construction contributed to this year's strong showing in the Western states. But most of the advance was scored by heavy engineering contracts, up 33 per cent to \$1.2 billion, and by non-residential contracts, up eight per cent to \$1.2 billion. Residential building contracts totalled \$2.0 billion, rising three per cent above the first half of 1960. For the same period, nationwide contracts for residential buildings were up only two per cent.

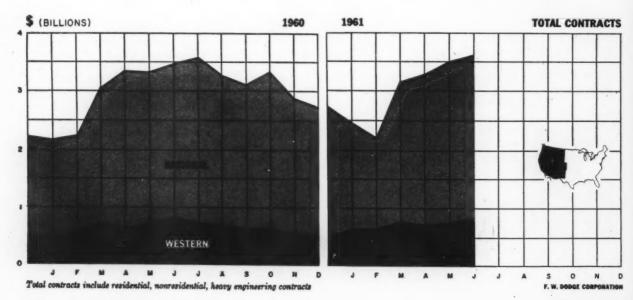
That the postwar pace of Western construction activity has exceeded, in general, that of the rest of the country is getting to be an old story. The basic economic facts behind the construction scene have been well documented, too. But it is interesting to note that in recent years practically all of the impetus that has made Western construction grow faster than the national trend has come from housing.

In 1956, when F. W. Dodge Corporation first started collecting construction statistics in the 11 Western states, both total contracts and residential building contracts accounted for 22 per cent of their respective national markets. For January through June 1961, total Western construction contracts constituted 24 per cent of the United States total, while Western residential contracts captured 26 per cent of nationwide housing contracts. Over the same period, Western nonresidential building contracts

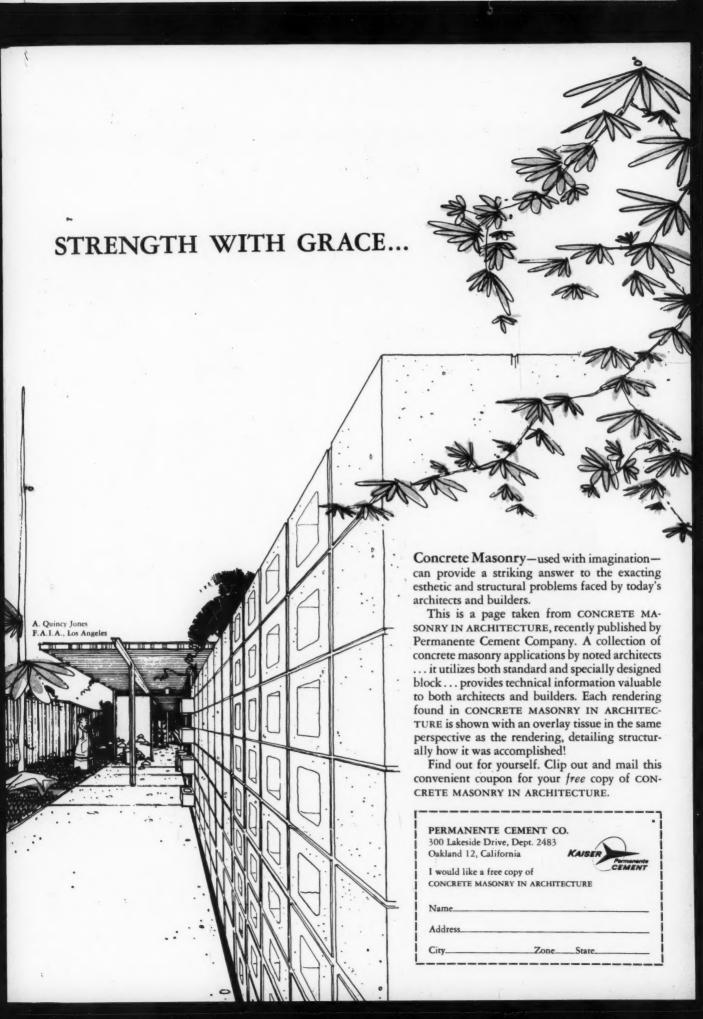
fractionally increased their share of the U.S. total, but the West's heavy engineering share declined.

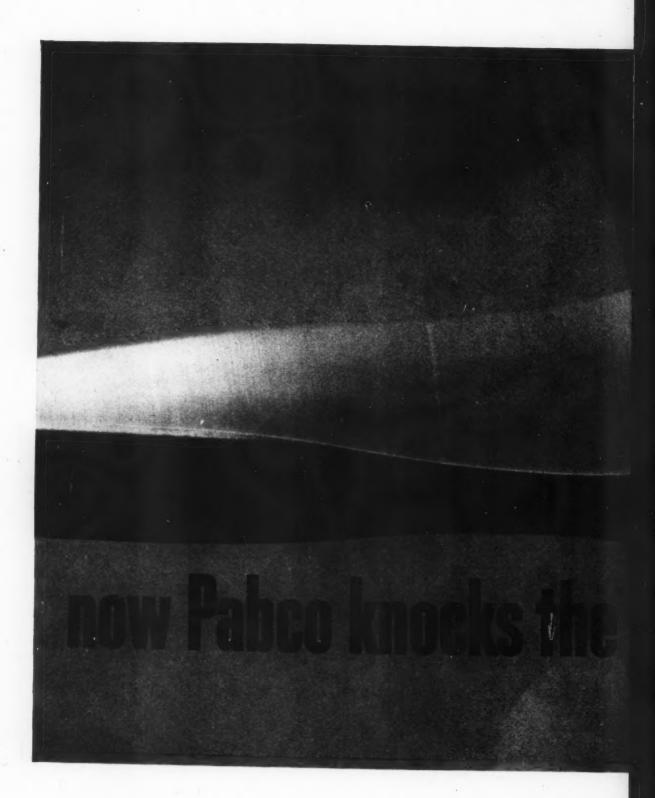
Western gains in residential building vis-à-vis the rest of the country stemmed primarily from a swifter rate of building new dwelling units (24 per cent of the nation in 1956 and 28 per cent in 1961). In addition, there was a slightly faster rise in average dollar valuation per dwelling unit in the West. Average valuation per dwelling unit in the first half of 1961 was still about \$800 lower in the West, though. This is owing in part, undoubtedly, to less need for insulation and central heating facilities in the booming communities of the Southwest.

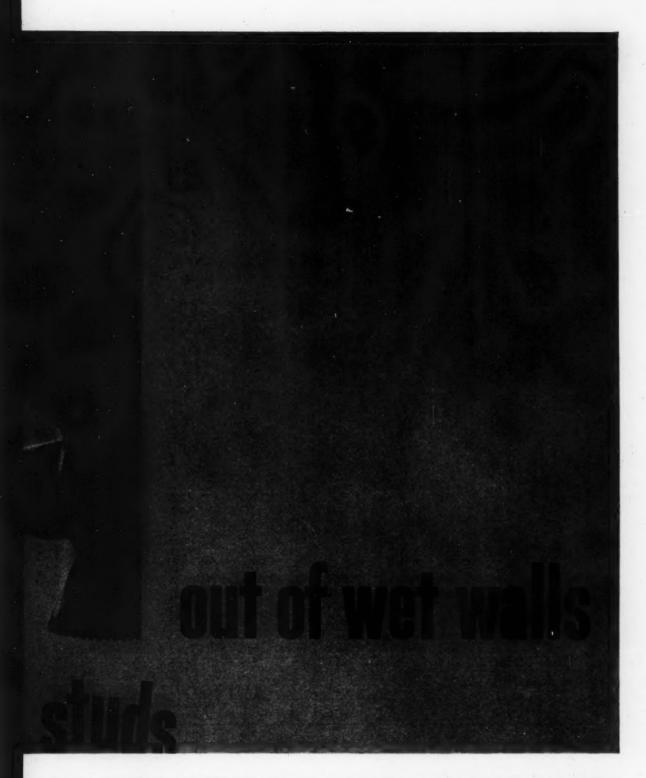
EDWARD A. SPRAGUE
Associate Economist
F. W. Dodge Corporation
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32-14 ARCHITECTURAL RECORD September 1961







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Western Construction Cost Indexes

Presented by Clyde Shute, Director of Statistical Policy, Construction News Div., F. W. Dodge Corp., from data compiled by E. H. Boeckh & Assoc. Inc.

Labor and Materials: U.S. average 1926-1929=100 DENVER

LOS ANGELES

			APTS., HOTELS OFFICE BLDGS.	FACTORY		RESIDI	ENTIAL	APTS., HOTELS OFFICE BLDGS.	FACTORY	
	RESID	ENTIAL	Brick	Brick	Brick			Brick	Brick	Brick
PERIOD	Brick	Frame	Concrete	Concrete	Steel	Brick	Frame	Concrete	Concrete	Steel
1939	112.0	112.1	116.1	117.8	117.0	97.2	93.6	103.7	104.9	106.2
1948	217.8	218.1	202.7	207.0	206.7	215.9	216.5	205.8	210.0	209.8
1949	215.8	212.9	211.0	215.3	214.6	207.0	203.2	209.9	212.4	210.2
1950	230.0	228.2	218.8	221.3	221.2	224.1	222.8	217.4	219.0	217.
1951	249.7	246.6	236.5	237.2	238.9	241.0	239.5	235.1	236.9	236.
1952	253.6	249.4	243.4	245.1	245.6	243.8	241.7	239.8	242.6	241.
1953	259.6	254.0	255.0	260.9	258.1	250.5	246.5	252.3	258.2	255.
1954	258.9	252.0	259.1	266.2	263.4	251.0	245.3	257.7	265.7	261.
1955	266.6	260.9	266.3	273.2	271.7	262.1	256.6	269.3	278.0	273.
1956	274.9	269.3	275.8	282.3	285.1	272.6	266.7	282.9	292.9	289.
1957	281.3	272.2	285.4	293.1	296.4	275.4	267.9	292.8	303.3	303.
1958	282.2	272.0	288.1	295.9	298.8	277.9	286.6	302.6	314.5	316.
1959	288.7	278.9	295.2	302.9	304.8	288.7	279.1	314.9	326.9	327.
1960	292.2	282.7	301.3	309.0	310.0	299.8	287.7	329.1	342.7	339.
April 1961	290.2	282.5	300.9	307.9	308.3	298.4	285.2	332.5	347.2	342.
May 1961	294.7	284.7	307.4	316.3	311.3	303.0	287.4	340.1	357.3	347.
June 1961	297.1	286.6	310.8	320.6	313.6	307.6	292.1	343.7	359.8	350.
	% Increase over 1939					% Increase over 1939				
June 1961	165.3	155.7	167.7	172.1	168.0	216.5	212.1	216.2	243.0	230.

SAN FRANCISCO

SEATTLE

1939	105.6	99.3	117.4	121.9	116.5	104.4	96.7	119.2	125.3	118.7
1948	218.9	216.6	208.3	214.7	211.1	216.3	211.4	211.5	216.6	216.9
1949	213.0	207.1	214.0	219.8	216.1	214.2	203.9	220.7	228.5	225.3
1950	227.0	223.1	222.4	224.5	222.6	224.1	213.6	227.1	234.5	230.3
1951	245.2	240.4	239.6	243.1	243.1	245.1	232.7	247.7	255.8	251.0
1952	250.2	245.0	245.6	248.7	249.6	254.3	239.8	258.8	267.7	263.8
1953	255.2	257.2	256.6	261.0	259.7	254.8	239.0	262.7	273.6	269.5
1954	257.4	249.2	264.1	272.5	267.2	253.3	236.1	266.6	279.1	274.0
1955	268.0	259.0	275.0	284.4	279.6	260.6	243.3	273.7	287.3	282.4
1956	279.0	270.0	288.9	298.6	295.8	273.5	254.0	288.5	303.4	299.0
1957	286.3	274.4	302.9	315.2	310.7	275.6	254.0	298.2	313.1	311.2
1958	289.8	274.9	311.5	326.7	320.8	279.9	256.4	306.0	324.0	320.8
1959	299.2	284.4	322.7	338.1	330.1	291.5	267.8	318.8	336.9	331.8
1960	305.5	288.9	335.3	352.2	342.3	298.9	272.4	330.5	351.2	342.5
April 1961	306.9	289.6	338.9	355.8	344.6	295.2	267.0	333.3	355.0	344.5
May 1961	310.7	290.7	347.1	367.4	353.7	296.2	268.1	335.2	357.3	345.4
June 1961	310.8	292.4	346.9	364.8	352.1	296.2	268.1	335.2	357.3	345.4
	% Increase over 1939				% Increase over 1939					
June 1961	194.3	194.5	195.5	199.3	202.2	183.7	177.2	181.2	185.1	191.

Cost comparisons, as percentage differences, for any particular type of construction, are possible between localities, or periods of time within the same city, by dividing the difference between the two index numbers by one of them; i.e.:

index for city A = 110 index for city B = 95

(both indexes must be for the same type of construction).

Then: costs in A are approximately 16 per cent higher than in B.

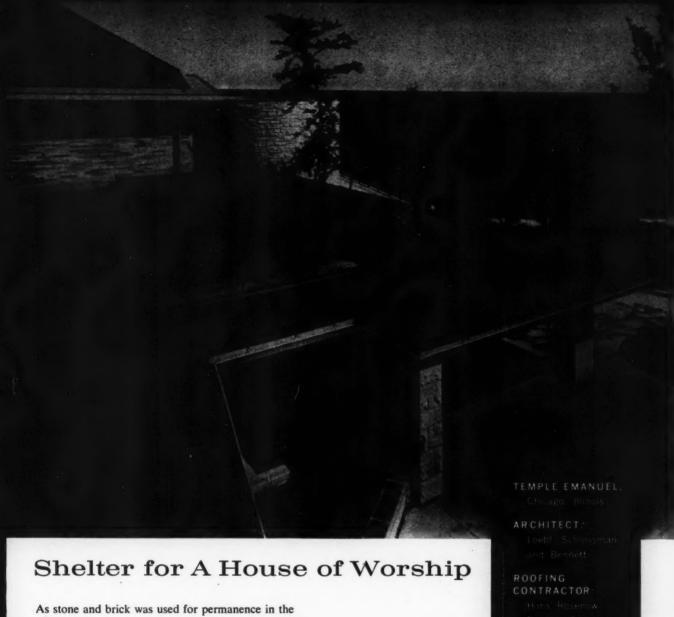
$$\frac{110 - 95}{95} = 0.158$$

Conversely: costs in B are approximately 14 per cent lower than in A.

$$\frac{110 - 95}{110} = 0.136$$

Cost comparisons cannot be made between different types of construction because the index numbers for each type relate to a different U. S. average for 1926-29.

Material prices and wage rates used in the current indexes make no allowance for payments in excess of published list prices, thus indexes reflect minimum costs and not necessarily actual costs.



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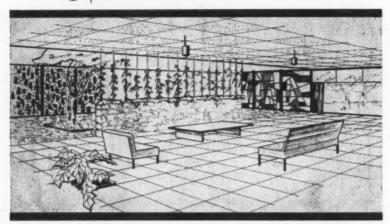
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Professional News

Elections and Appointments

John L. Wright, architect, has been installed as president of Seattle Urban Renewal Enterprise, Inc.

California architect *Donald Schoelly* has been appointed to the Del Mar Planning Commission.

Professor Henry Elder, a member of the architectural faculty at Cornell University, will join Stanford University's faculty in architecture in September 1961.

Annabelle Heath, formerly regional administrator of the Housing and Home Finance Agency in San Francisco, is now president of the Merit Development Corporation, real estate and urban development firm with offices in San Francisco and Los Angeles.

Perini-San Francisco Associates, who will build the Golden Gateway Redevelopment, have recently appointed an art advisory committee composed of Mortimer Fleishhacker Jr., one of the principals in the redevelopment group; George D. Culler, director of the San Francisco Museum of Art; Thomas C. Howe, director of the Calif. Palace of the Legion of Honor; and Gurdon Woods, director of the San Francisco Art Institute.

Henry Melton Hesse has been named director of the architectural department in the Honolulu office of Harland Bartholomew & Associates.

A. W. McKelvey has been appointed executive vice-president and a member of the board of directors of George Vernon Russell & Associates, architects and engineers in Los Angeles and Sunnyvale.

Murton H. Willson, A.I.A., has been appointed an associate in Blurock, Ellerbroek & Associates in Corona del Mar. Calif.

Robert W. Ratcliff, Berkeley architect, has been named president of the Council of Social Planning in Berkeley.

continued on page 32-22

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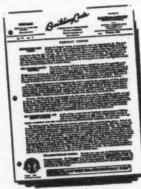


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Professional News

continued from page 32-20

Harold D. Hauf, Dean of the School of Architecture at Rensselaer Polytechnic Institute at Troy, New York, has been named vice president in charge of design and planning for Charles Luckman Associates, planning-architecture-engineering firm of Los Angeles and New York.

Max Saul, architect, is the new president of the Denver chapter, Construction Specifications Institute. Charles R. Hazelwood, architect, and Thomas W. Keeton are first and second vice presidents, respectively, and A. B. Manning is treasurer. Donald A. Wakefield was re-elected secretary. Henry Baume, architect, and James Hastings, consulting engineer, remain on the board of directors.

Edward N. Chamberlain, Palo Alto, Calif., architect, has been appointed to the Santa Clara County Planning Commission, succeeding Morgan Stedman, also an architect in Palo Alto.

George T. Rockrise, president of the Northern California chapter, A.I.A., has been appointed to the San Francisco City Planning Commission, which since 1957 has been without a representative of the architectural profession.

New officers of the Seattle chapter, A.I.A., are Hugo Osterman, president, Ibsen Nelsen, first vice president, Dan Miller, second vice president, David A. McKinley, secretary, Gene Martenson, treasurer, and John Morse, Aaron Freed, Stephen Richardson and Victor Steinbrueck, directors.

John E. McGuire of Tacoma has been re-elected president of the Southwest Washington chapter, A.I.A. Other officers for the year include Robert B. Price, first vice president, K. Walter Johnson, second vice president, James M. Harris, secretary, Donald W. Seifert, treasurer, and Warren A. Brown and John G. Richards, board members.

New Addresses

Corlett and Spackman, 121 Second Street, San Francisco, Calif.

Consulting Engineers Association of California, 1355 Market Street, San Francisco, Calif.

Miner & Miner, consulting engineers, 17 East Powers Avenue, Littleton, Colo.

A. Mackenzie Cantin & Associates, architects, 1204 Boulevard Way, Walnut Creek, Calif.

Ratcliff-Slama-Cadwalader, architects, 6997 Grove Street, Oakland, Calif.

New Firms

Kellogg & Sayre, architects, have dissolved their partnership. Charles Kellogg has opened an office at 1445 Clarkson Street, Denver. William B. Sayre will remain at 847 E. Colfax Avenue, Denver.

Competition Announced for New California Governor's Mansion

All California resident architects will be eligible for participation in the design competition, just announced by the Capitol Building and Planning Commission, for the new Governor's Mansion which will replace the 84-yearold Victorian museum-piece in use since 1903. William W. Wurster, member of the commission, dean of the College of Environmental Design at the University of California, and member of the firm of Wurster, Bernardi & Emmons of San Francisco, will be the professional advisor for the competition. Daniel J. Nacht, of the Sacramento firm of Starks, Jozens & Nacht, architects, will assist him.

The competition is to be held in two stages. The first is open to all architects who reside in California. The second will be open only to the ten architects selected by a jury from the first-phase entrants. The jury will designate the four designs it considers most appropriate, naming first, second, third and fourth place winners. There will be no cash awards. From these ten, Governor Edmund G. Brown will name the winning architect.

The program will be available on November 1. Judgment of the first phase will be on December 15. The final phase will begin on January 1, with judgment on February 15. (Judgment dates are tentative.)

Copies of the program may be obtained by writing to William W. Wurster, c/o Capitol Building and Planning Commission, Room 1173 State Capitol, Sacramento, Calif.

Governor's Mansion May be State Historic Monument

When the new Governor's Mansion for the State of California is completed in Sacramento, the old mansion, a handsome 84-year-old Victorian house on a small corner site across the street from a motel and just beside a noisy, busy thoroughfare, will probably become a State historic monument. The Mansion, used by the state for its chief executive's residence for the last 58 years, was built in 1877 by Albert Gallatin, an associate of Mark Hopkins and Collis P. Huntington of California's fabulous era of development, and was once owned by Joseph Steffens, father of Lincoln Steffens.

Rezoning a few years ago of the area in which the house stands, the heavy increase in traffic along the adjacent street, and the restrictions of the site which preclude any addition to the house all influenced the legislature to approve purchase of a new site. The new mansion will be one of the first buildings to be constructed in the Capitol area, and will be located according to the long-range development plan prepared by Livingston & Blayney, city and regional planners, and John Carl Warnecke and Associates, architects (WESTERN SECTION, March 1961, p.

Governor Brown, reported to have commented with good humor on the shortcomings of the house as a family dwelling, has also stated his strong affection for it. When a proposal was made several years ago to tear it down, the Governor said, "Over my dead body." It is at the Governor's request that the State Director of Natural Resources is now studying a plan to preserve the house.

more news on pages 32-34





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THE WORLD'S LARGEST DISTRIBUTOR OF DIESEL ENGINES Building Starts On San Francisco Hilton Hotel

Ground was finally broken in August for the long delayed and highly controversial San Francisco Hilton Hotel. The hotel will stand on a site near Union Square in the downtown business and theater district. Plans for the hotel, announced two years ago, were opposed by the city's Building Department because they provided no smokeproof towers and lacked required auditorium exits direct to the street.

The hotel's design, for which William Tabler of New York was architect, is unusual in providing garage parking for cars on the same floor with hotel rooms. Present scheduling calls for the building to be completed in two and a half to three years.

Seattle to Have Large Shopping Center

A 42-acre shopping center, almost as large as Portland's Lloyd Center, is to be built in Seattle next year, its developers, H. R. Watchie and Associates, have announced. Welton Becket and Associates are architects for the center.

The new center, to be called Factoria Shopping Center, is to be located near Lake Washington. It will have 600,000 sq ft of space, in contrast to Lloyd Center's 1,200,000 sq ft, and will cost \$20 million where Lloyd Center cost \$30 million. It will contain a 10-story office building, a circular department store, and an ice rink in addition to other shops and stores of various sizes.

The developers also plan to develop a shopping center in Beaverton, near Portland, Ore., next year.

Yamasaki to Design Century City Hotel

Minoru Yamasaki of Detroit is the architect for a new 500-room, \$12 million hotel to be built by Western Hotels in Century City, now being developed on the old Fox 20th Century lot in Los Angeles

The hotel will be designed to allow for doubling its 500-room capacity, and will include garden cabanas and parking for 1000 cars.

Century City is a \$500 million project which will ultimately result in a new community.





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Waste Space

Cream Cheese, Aloha Shirts, the Drip-Dry Kimono Every so often in architectural circles the question of regionalism gets dusted off and examined, sometimes with favor, sometimes without it. Usually, however, the extent of the problem goes unrecognized—or, at least, its architectural ramifications overshadow the other ways in which

the regional flavor can—or cannot—affect our daily lives.

Fast 'transportation, fast communication for both the eye and the ear, a tremendously mobile generation of people, highly developed containerization for product transportation are factors in the downfall of regional flavor, architectural and otherwise.

Once New Orleans had a delectable product called cream cheese, completely unlike any other cream cheese, which was ordered from the dairy as a matter of course. But too many new people moved into the city and demanded cottage cheese. They got cottage cheese. But the city lost its distinctive cream cheese.

The aloha shirt has been as much a part of Waikiki as the surf board and the lei sellers. No mainlander would think of remaining in his mainland white shirt strolling on Kalakaua Avenue, and kamaiinas generally looked on the aloha shirt as de riqueur. But a recent letter to the Honolulu Advertiser bemoans the fact that fewer and fewer aloha shirts are seen in Honolulu and more and more dark business suits are being worn—even, says the correspondent, in the legislature. Has statehood shorn the Islands of their long-time regional—and independent—flavor?

But the most distressing of all such signs of the times is the sign in a shop window in San Francisco's Chinatown: "Drip-dry kimonos."

O tempora! O mores! Is this the outcome of the International Style of 40 years ago? Is this what architecture unconsciously has imposed upon the culture? Or is it a general trend toward levelling off everything—standards of conduct, standards of dress, standards of eating, even standards of commerce. With the drip-dry kimono, what happens to the Chinese laundry? With the non-regionally inspired architectural design, what happens to the local architect?

A Good Teacher is a Rare Thing

Fred Langhorst, former Taliesin fellow and for quite a few years a practicing architect in the San Francisco Bay Area, completed a year of teaching at CalPoly in June and to his complete surprise and the delight of faculty and students, received that rare token, an expression of appreciation from his students. Usually, students are former and the teacher is dead when this kind of thing happens. But Fred and his students are all very much alive. The scroll presented to him reads:

"For his sincere devotion and inherent understanding of the study of architecture and his ability to reason and express his knowledge, background and enthusiasm for a common goal, we, the students of California State Polytechnic College, extend our gratitude and best wishes for a continued provocation of ideals."

CalPoly has always been an unusual school; this shows that its students are as sensitive as they are capable. Some of the worrying old folk can relax—a bit.

E.K.T.

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Mountain Architects to Discuss "Politics of Architecture"

Henry L. Wright, Los Angeles architect and A.I.A. first vice president, Donald Reay, of the Berkeley firm of De-Mars and Reay who, with Wurster, Bernardi & Emmons, are architects for the Golden Gateway redevelopment project in San Francisco, writer Allan Temko and author and professor Eugene Burdick, will speak at the tenth annual conference of the Western Mountain district, A.I.A. The conference will be held September 21-23 at the Riverside Hotel, Reno, Nevada. Workshops, panel discussions and exhibits will also be featured on the program, now being organized under the theme of "Public Agencies in Community Development: The Politics of Architecture."

Graham Erskine, Reno architect, is host chapter president, Lloyd Snedaker of Salt Lake City is regional director and John Hale Calef of Reno is conference chairman.

APOLOGIES: To James Levorsen of San Francisco, who should have been designated as architect in the publication (August 1961, p. 32-2) of the design, submitted by him and B. Clyde Cohen, also an architect, which was one of the four chosen by the San Francisco Redevelopment Agency as "appropriate for building on the crest of Red Rock Hill." To Alan Hamilton Rider, architect, and Glen Michels, sculptor, for placing their design fifth instead of second in the Seattle Center Fountain competition in the article on the competition winners in April 1961, page 32-3.

Calendar of Western Events

- September 9-October 8: "Treasures from Thailand," Seattle Art Museum, Seattle
- September 15-17: Exploring the Creative Process: "Eyes West," First annual West Coast conference for artists and designers, Mark Thomas Motel, Monterey, Calif.
- September 21-23: Western Mountain Region, A.I.A., annual conference, Riverside Hotel, Reno, Nev.
- September 30-October 4: Tenth annual conference, Northwest region, A.I.A., Hawaiian Village Hotel, Honolulu
- October 7-10: Western Building Industries Exposition, Great Western Exhibit Center, Los Angeles
- October 19-21: California Council of Landscape Architects annual convention, El Dorado Hotel, Sacramento
- October 18-22: California Council, A.I.A., annual convention, Hotel del Coronado, Coronado, Calif.
- September 20: First of 15 weekly Wednesday lectures on "Men and Methods in Contemporary Architecture" by Max R. Horwitz, Haines Hall, University of California at Los Angeles
- September 30: Closing, exhibition of the work of Sim Bruce Richards, architect, LaJolla, Calif., and of James Hubbell, artist, at Wishing Well Hotel, Rancho Sante Fe, Calif.



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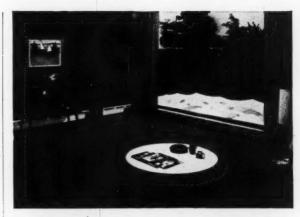
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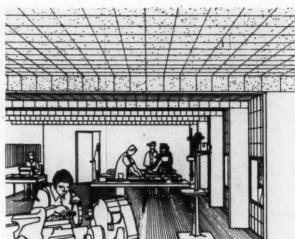
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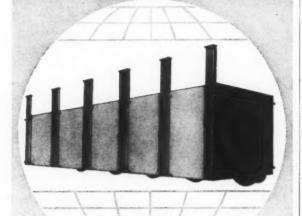
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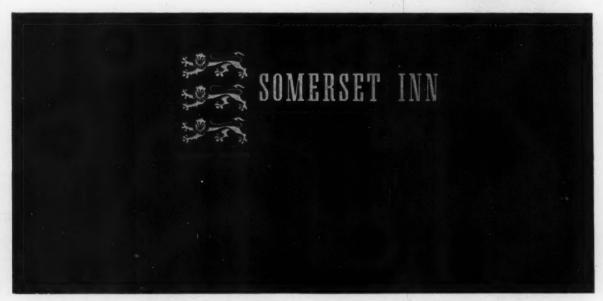
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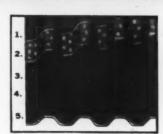
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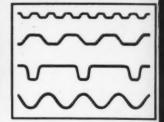
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Lincoln Memorial, Henry Bacon, architect —from The Architecture of America

Procopius Americanus

THE ARCHITECTURE OF AMERICA. A Social and Cultural History. By John Ely Burchard and Albert Bush-Brown. Little, Brown & Co., 34 Beacon St., Boston 6, Mass. 595 pp., illus. \$15.

This book was originally conceived as a centennial history of the American Institute of Architects to be published during the anniversary celebration of 1957. The authors, however, have enlarged upon the earlier plan, and the result is a cultural history of American architecture intended for the general reader. It is the most comprehensive book yet published on this subject, and while previous historians may have the advantage on certain points-Fiske Kimball on the importance of Jefferson, for example, and Lewis Mumford on the larger context of architectural events-the scope of the authors' intentions and the high standards preserved throughout make this a work of considerable importance.

The stance of the book is firm and clear; it brings together a wealth of material previously available only in architectural periodicals or in specialized works, and it adds many insights of its own in the process. The authors employ a refreshingly sceptical attitude toward some of the subtleties of the modern movement. They have little patience with such

selective approaches to architecture as the "Bay Region Style" or "The Functional Tradition." They do not confine themselves to "progressive" or "mainstream" events; they consider the Court of Honor at the World's Columbian Exposition a symptom and not a cause of the national temper; they recognize that American architecture of the Twenties actually took place during that decade and was not merely a curtain call for an earlier epoch.

The only point on which the authors seem uncertain is the manner in which they wish to present their material. They have clearly been at pains to put the general reader at his ease. They begin with a lengthy discussion of the nature of architecture, which may seem a rather tiresome project, but is actually an excellent introduction to the philosophical complexities of the subject. They then divide their history into five large chapters. The first is a sweeping description of American architecture from the earliest settlements to the Civil War; the last four, the bulk of the book, cover the years from the Civil War to the present. Within each chapter, the authors seek to build a picture of the period they describe from pieces of information that are in themselves fragmentary and often very specialized. They also include many elements of cultural and social history as points of reference for the general reader. There is interesting material on every page; but it is difficult to know whether such an impressionistic approach can be intelligible to someone with only a slight previous acquaintance with the subject. In the end, the balance of the work may have been lost from bending over backward to avoid the stigma of the textbook.

The specialist must inevitably find points of disagreement, and the student will still require more detailed texts. Therefore, one hopes that the rather diffuse nature of the presentation does not make this history too difficult for the general reader to assimilate; for, if it does, he will miss much that is excellent.

-JONATHAN BARNETT

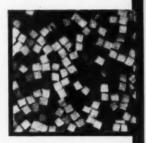
Europe in Technicolor

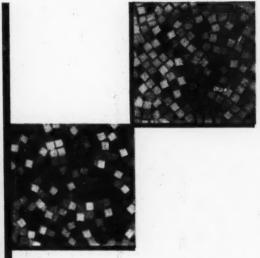
THE WORLD OF GREAT ARCHITECTURE. By R. Furneaux Jordan and Body Cichy. The Viking Press, Inc., 625 Madison Ave., New York 22. 460 pp., illus. \$22.50.

With due respect to the authors, it must be said that in this book the pictures are all—or almost all. The publishers understandably boast on the jacket about the 112 full-page color plates inside the volume. They are all handsome. Lovers of picture books may well find the rather stiff price of \$22.50 worth it.

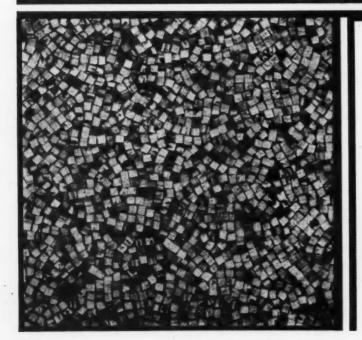
continued on page 51

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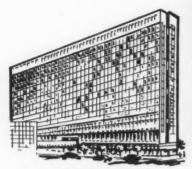
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Free-form panel designs were "carved" in molds of damp sand by renowned sculptor, Costantino Nivola. Architect: Alfred Shaw of Shaw, Metz & Dolio, Chicago. Consultant Architects: Edward D. Stone, New York; John Root, Chicago.

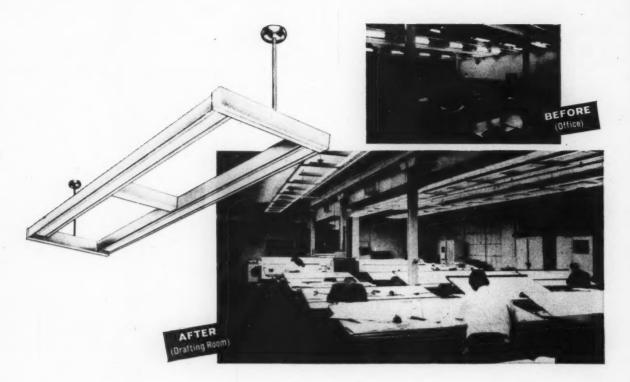
Chicago's important new exposition center dominates its lake-front setting from every direction.

Needed was an appropriately bold, new treatment . . . one that could give drama to more than a half mile of 50-foot-high walls. The architect created a rhythmic wall pattern of free-form and geometric designs executed in 2,048 panels of precast concrete. Their bright beauty was achieved through the use of white cement and white quartz chips.

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conditions schools have been built . . . hundreds more are on the drawing boards. Furn the page for a close look at a typical Herman Nelson "new count" school.

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"Air conditioning improves

Don C. Smith, Principal Del Norte Elementary School Roswell, New Mexico



"I do not consider air conditioning to be a fringe benefit for teachers alone, but as a valuable aid in our total educational process," says Don C. Smith, Principal, Del Norte Elementary School. "The most important advantage is that the added comfort of students and teachers contributes to their ability to concentrate and learn . . . air conditioned classrooms definitely improve student reaction."

student reaction"...



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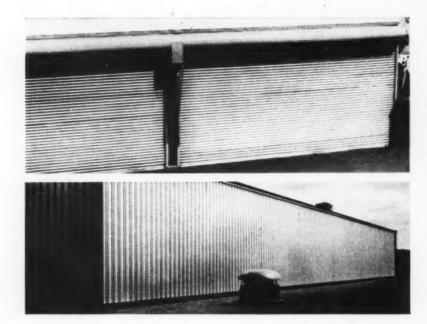




"The air conditioned school . . . gives administrators, teachers, students, and the community, in general, a better learning environment at a first cost and operating costs smaller than a conventional school." States Consulting Engineer Dr. Marcello Giomi, Albuquerque, N. M.

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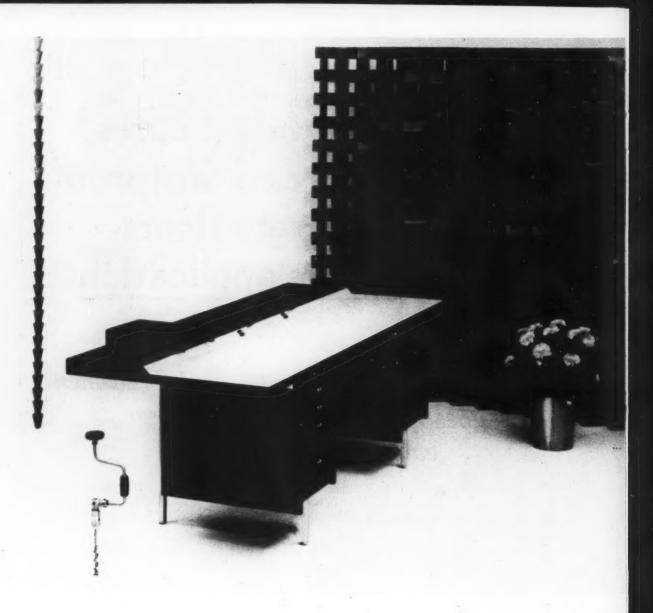
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THE LEOPOLD COMPANY Burlington, lowa

Required Reading

continued from page 40

Europe . . .

R. Furneaux Jordan's text, subtitled "From the Greeks to the Nineteenth Century," is a very basic introduction to the subject-sufficient to the purpose, but unlikely to seem very adventurous to the professional. Because on the whole it is an adequate and a comprehensible brief history, readers will probably not be inclined to argue minor points, although it would be possible to disagree with, for example, the statement that the Houses of Parliament are "probably the greatest single architectural monument of the 19th century." Someone, it seems, has already disagreed, since the ultimate photograph is of the Opera in Paris.

The relatively long captions, written by Dr. Cichy, comprise some specifics on the buildings displayed, and these, too, are comprehensible to the novice. The buildings chosen rank in time from the temples at Paestum to the Paris Opera, and in space from the cathedral at Monreale to the stave churches of Norway, from Westminster Abbey to St. Basil's Cathedral in the Kremlin. No photo credits are given, but the photographs appear to have been, if not specially, certainly recently taken.

Collegiate Study Habits

STUDENT REACTIONS TO STUDY FACILITIES. With Implications for Architects and College Administrators. By Stuart M. Stoke, Robert F. Grose, David W. Lewit, Michael Olmsted and Bulkeley Smith Jr. 60 pp.

This study was undertaken by a committee from four colleges-Mount Holyoke, Smith, Amherst and the University of Massachusetts. The committee gathered from students at these colleges both objective data on their study habits and subjective opinion on "ideal" study facilities. Not all of the conclusions were immediately apparent: large reading rooms in main libraries, for instance, were used by students just short of half their total study time, but it appeared after questioning that there were any number of reasons for this, continued on page 58



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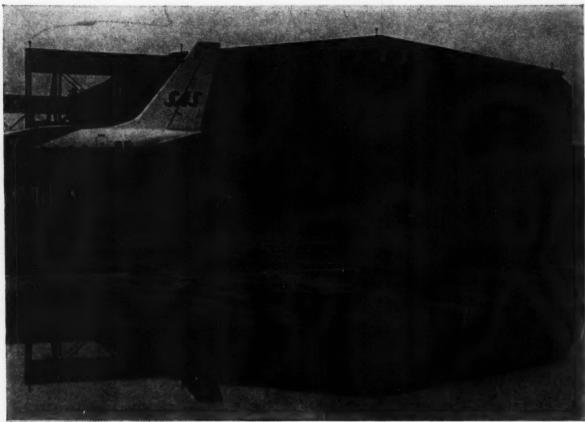
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ARCHITECT: Roy S. Bent, associate of Kahn & Jacobs, N.Y.

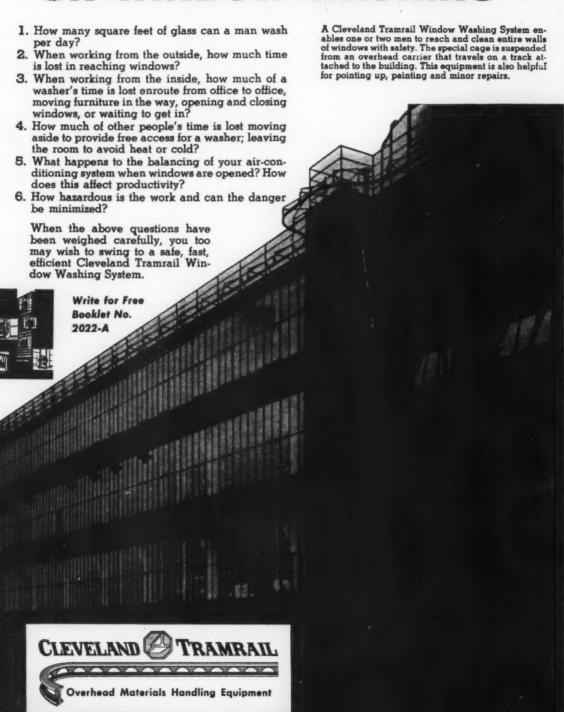
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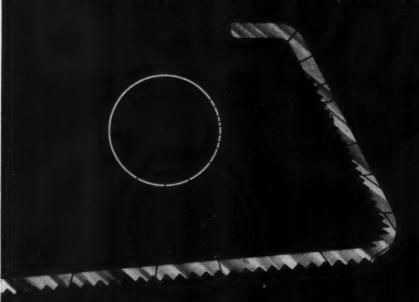
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Required Reading

continued from page 51

none of which was that the students preferred them. Both by their own declarations and by their habits, students indicated that they preferred small rooms—especially carrels, when provided in sufficiency. The report also covers considerations of privacy, lack of distraction, lighting, smoking privileges, typing, storage of books and special equipment.

Although students adapted pretty well to the study spaces they were given, it would seem that both time (the student's) and space (the college's) are partially wasted. The study committee concluded that more thoughtful approaches must be made in the realms of both design and administration.

Mr. Stoke and his fellow committee members prepared this report under the auspices of the Committee for New College, with a grant from the Fund for the Advancement of Education. The report is available to architects and administrators, at no charge, from Mr. Stoke at the Department of Psychology and Education, Mount Holyoke College, South Hadley, Mass.

Mathematics of Frame Structures

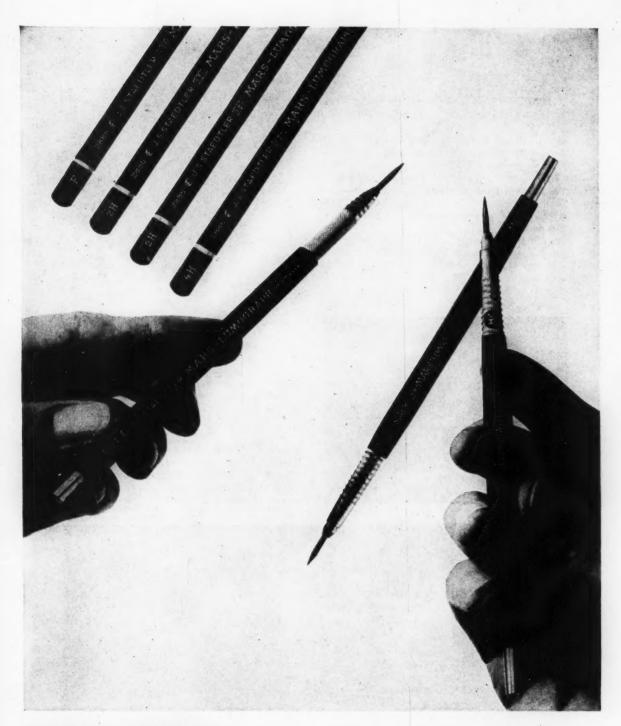
FRAME ANALYSIS. By A. S. Hall and R. W. Woodhead. John Wiley & Sons, Inc., 440 Park Ave. South, New York 16. 247 pp., illus. \$8.50,

This is the best book of its type dealing with matrix analysis of different types of frames. This is particularly useful when it is desired to analyze a complicated frame by the use of computers.

For an extension of the method analysis into the plastic range, basic definitions are not sufficiently clear.

The chapter on relaxation methods states clearly the fact that moment distribution is a method of solving the equilibrium equations as set up by slope-deflection. This should clear up the confusion that exists regarding moment distribution as well as the other methods usually found in textbooks insofar as these are only mathematical tools rather than methods of analysis.

-MATTHYS P. LEVY



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Interior Designer: Eleanor Le Maire

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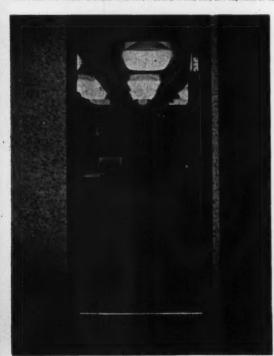
Sound control and good looks

Panels of J-M Corrugated Transite®—slit, and backed with mineral wool pads—provide effective sound control and an attractive solution which follows the wall contours of this school auditorium.

Architect: Jess J. Jones, AIA







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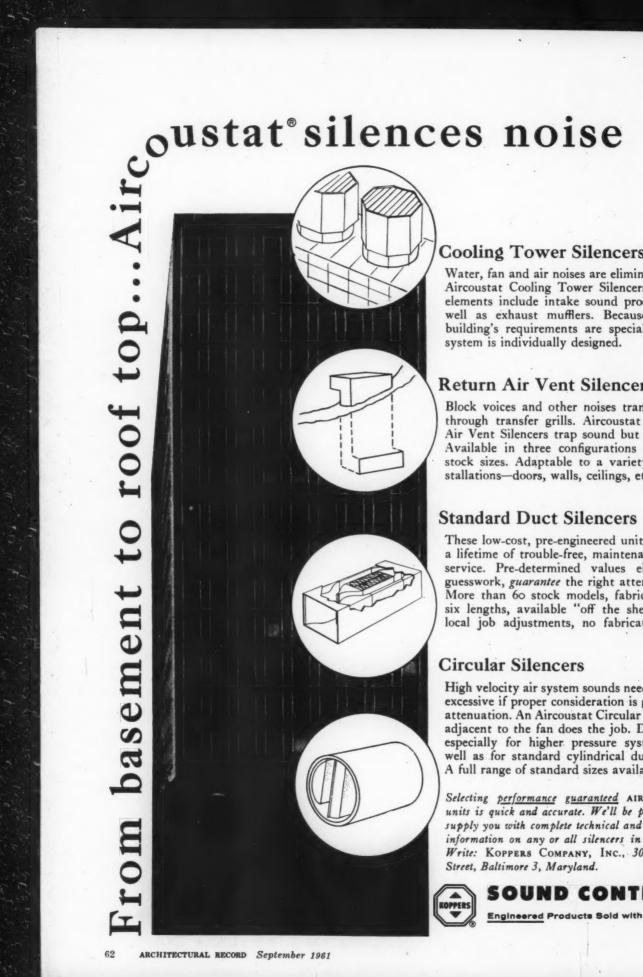
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Have you discovered the wonderful decorative possibilities of

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FREE COLOR PALETTE of actual tiles showing complete range of 58 different available colors will be sent without cost to architects and designers who write on their professional letterhead to Dept. AR-619.

TILE

glazed ceramic mosaic produced in the U.S.A. by Suntile

Here's a sure-fire way of giving your interior wall designs an interesting fresh appearance . . . Design them with HORIZON TILE. This new, colorful wall tile has an informal, handcrafted appearance that's beautiful beyond description.

HORIZON TILE achieves its distinctive appearance through the intentional variation and irregularity of its shape, its surface texture and its 58 beautiful color shades that range from soft pastels to solid or textured tones.

Whether you use HORIZON TILE to create a beautiful mosaic mural, like the one shown here, or use one of the many interesting "Buckshot" or "Striped Pattern" designs created by Suntile's Design Department, you'll find that HORIZON TILE adds greatly to the beauty of your finished wall.

HORIZON TILE, made in America by Cambridge, is available through your local Suntile dealer. His name is listed in the Yellow Pages of your telephone directory.

OUR DESIGN DEPT.

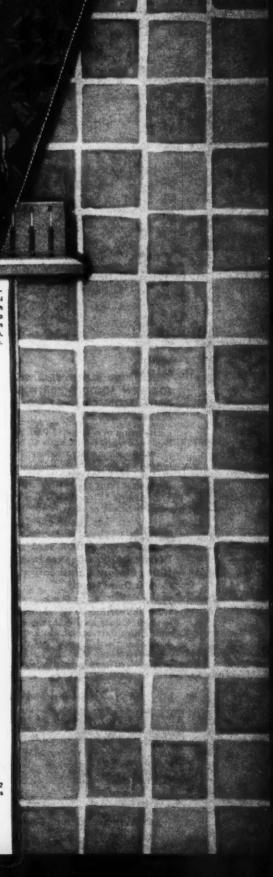
under the direction of George Limke is ready to assist you with your tile design or layout problems. Send us your plans or elevations for suggested tile applications, or let us put your own tile designs in layout form.

THE CAMBRIDGE TILE MFG. CO.

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The Crucifixion —
an 11'x 15' mosaic mural
St. Andrew's Church
Columbus, Ohio
Murolist: Charles L. Madden
Resurgers Associates,
Philis. Ps.

Design No. M-2 Actual size tiles



ART FOR ARCHITECTURE AVAILABLE ON LEASE

The works of two artists, recently on special exhibition at the Graham Gallery in New York, are now available to new residential or commercial buildings for installation on a trial basis.

One of the works is a single painting—a four panel abstract mural, 8 by 24 ft, by Norman Bluhm.



"Oz," an abstract mural in four sections (each panel 8 ft x 6 ft) by Norman Bluhm

The other is a group of cylindrical paintings, ranging in size from 3 ft high and 7 ft in diameter to 12 ft high and 2 ft in diameter, by Elaine de Kooning.



NEW "T" FLOOR SEAL ON TORJESEN FOLDING PARTITIONS Effects 100% Closure Regardless of Floor Contour!

Each section of a Torjesen Partition has its own "T" floor seal. An electro-pneumatic activated unit in the bottom does the job! Regardless

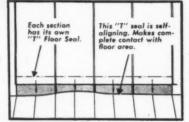
of high or low floor points, each panel is held rigidly in 100% contact with the floor making the entire partition immovable.

*The new "T" Floor Seal is now standard equipment on all Torjesen Folding Partitions at no extra cost!

OLD TYPE FLOOR SEAL NOW IN GENERAL USE Cannot Effect 100% Closure Unless Entire Floor is Dead Level!

The drawing at right shows this. When the partition is closed the seal in the first door section is triggered and in turn activates each following

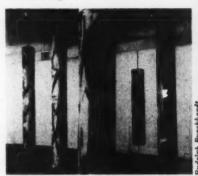
door section seal. They all reach the same level which is the highest point on the floor area. Any irregularity in floor contour will cause the rest of the panels to hang loosely thus affecting the rigidity of the entire partition.



Seal All seals reach same level which is highest point on floor area.

Visit our plant and tour its facilities . Write for fully detailed catalog





Painted "columns": Elaine de Kooning

Realizing that many of the abstract painters today work in a scale beyond the pocketbook and hanging space of the small collector and that this same scale renders works of this sort particularly suitable for architectural installation, Robert Graham for several years has had the idea of staging such an exhibition. His goal was to make available to architects, on a trial basis, portable works that could be immediately placed in restaurants, banks and lobbies of modern buildings.

Mr. Graham felt that two artists who could present his case were Norman Bluhm and Elaine de Kooning, both New York painters associated with the New York school of abstract painting.

The Graham Gallery, 1014 Madison Avenue, New York, is now prepared to receive inquiries from architectural firms engaged in buildings where the Bluhm mural or the de Kooning columns might be housed. The art works may be leased for a year for the fee of 20 per cent of the sales price. If the renter decides to buy the work at the end of the year, he may deduct the 20 per cent from the total.

more news on page 76





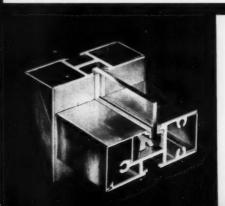
BEAUTY WITH GLASS FROM PPG Build with glass for light and color

Only glass can brighten the inside, color the outside, make design stand out on every side of your building. PPG is your most complete source for all types of glass and related metal products. And that source is close to you. PPG can offer you the services of a nationwide organization of branches and distributors—integrated with a central engineering department—and a staff of over 50 architectural representatives in the field. Consult your PPG architectural representative any time. Ask him about PPG's unique ability to handle your complete curtain wall needs—including erection. For printed material, see Sweet's.

Pittsburgh Plate Glass Company



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In Canada: Canadian Pittsburgh Industries Limited
West Coast Distributor: W. P. Fuller & Company,
San Francisco, Calif.



SEE THE NEXT FIVE PAGES >



PPG SOLARGRAY® Plate Glass pays big dividends in new Harris Bank Building

More than an acre of PPG SOLARGRAY Polished Plate Glass is at work in the Harris Trust and Savings Bank Building in Chicago. Combining utility with beauty, PPG SOLARGRAY truly is "at work."

PPG Solargray is contributing to interior comfort in the Harris Bank Building because it is a heatabsorbing and glare-reducing plate glass. Its soft gray tint absorbs about 50% of the sun's heat and substantially reduces the amount of sun glare entering the building. Yet it permits plenty of light to come through, allowing a proper balance of natural and artificial lighting. And Solargray provides this glare- and heat-control with a neutral gray tint that requires no special interior color planning.

While Solargray was developed to control the sun's heat and glare, its delicate color adds beauty to any building. The use of PPG Solargray Plate Glass in the Harris Bank Building helps give the building its distinctive beauty.

Other PPG Glass Products in the building include ½" clear Polished Plate Glass and, for accent, white suede finish PPG CARRARA® Structural Glass that will retain its color and beauty permanently. Your Pittsburgh Plate Glass architectural representative will give you specific data on any PPG product. For a quick look, check the Pittsburgh Glass Products Catalog in Sweet's.



Architects-Engineers: Skidmore, Owings & Merrill, Chicago, Ill.
Contractor: Turner Construction Co.
Glazed by: Hooker Glass and Paint Manufacturing Company



Pittsburgh Plate Glass . . . the basic architectural material

PPG SOLARGRAY Polished Plate Glass does double duty in the Harris Trust and Savings Bank Building. It reduces glare and heat . . . and provides distinctive beauty.

Prudential's new building...

Architects & Engineers: Frank Grad & Sons, Newark, New Jersey. Contractor: Massett Building Company, Atlantic City, New Jersey



Light and beauty... with Glass from PPG



The dramatic use of PPG SPANDRELITE® Glass adds beauty to the Linwood, N. J. office of the Prudential Insurance Company. The beauty of the SPANDRELITE is further enhanced through the use of PPG SOLEX® green-tinted plate glass in the window areas.

PPG SPANDRELITE is a heat-strengthened glass with ceramic color fused to the back. It comes in 18 standard colors or in the custom color of your choice. Being glass, SPANDRELITE will never warp, pit or corrode. Its shade doesn't vary from panel to panel and it can be matched years later. The color lasts and maintenance is extremely low. PPG SOLEX, set in a PPG aluminum framing system, is a heat-absorbing, glare-reducing plate glass that absorbs about 50% of direct solar radiation. This reduces air conditioning costs. The green tint is easy on the eyes. The framing system, PITTCO® 82X, is specially designed for leak-proof, glass-clad construction. Handsome Tubelite® Aluminum Doors and Frames complete the list of PPG products that help bring this building to life.

Your Pittsburgh Plate Glass architectural representative will give you specific data on any of these products. Information on products can also be found in the Pittsburgh Glass Products Catalog in Sweet's.

Only PPG offers you single-source responsibility for the supply and erection of a complete curtain wall system—the metal grid, the panels, the insulation, the glass.



SPANDRELITE°

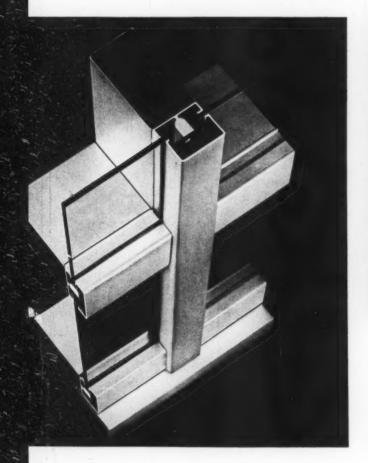
_glass in color

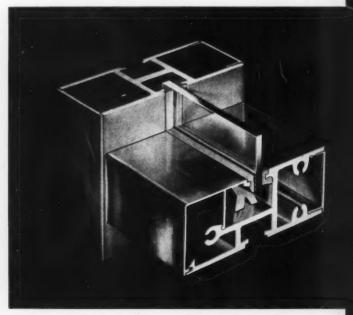
Two curtain wall framing systems available to you in PITTCO® METAL

PITTCO® Metal has been used for years and years in important buildings throughout the country. Now it is available in two framing systems that fit most types of curtain walls. You can specify PITTCO with utmost confidence.

PITTCO 82-X Series—This framing is available with rolled face members in aluminum, bronze or stainless steel; extruded face members are in aluminum only. It provides a dry setting for the glass with the option of using thin narrow strips of No. 1072 sealer, a compound that retains its elasticity indefinitely. Joints are sealed with a special compound that stays flexible even at -30°F. The draining and ventilating system really works. Adjustments can be made to accommodate various thicknesses of glass. No. 25-X companion framing for one-inch TWINDOW® is also available.

The new PITTCO "900" Series—You can frame windows and glass-clad walls completely with the related components of the new PITTCO "900" series. It is provided with an effective system of gaskets and drainage openings to assure a leak-proof assembly. All members are aluminum; all fastenings are concealed; all glass is held in neoprene strips and recessed to increase daylight opening. And the clean beauty of every line is strikingly apparent. For details, consult your PITTCO Metal Representative or contact your local PPG Branch or Distributor.

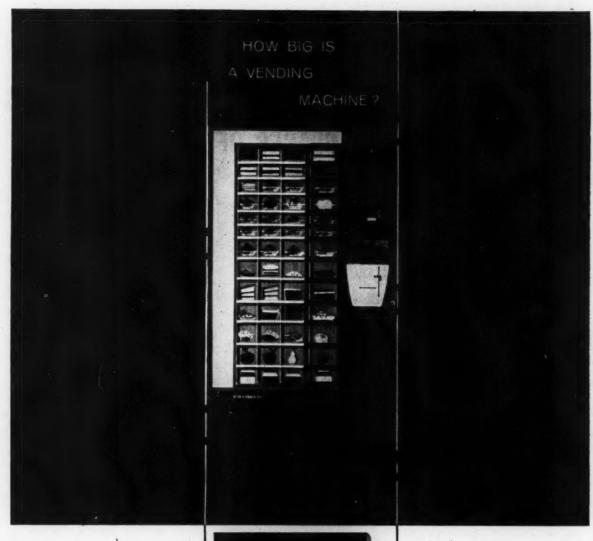




Pittsburgh Plate Glass Company



Paints • Glass • Chemicals • Fiber Glass In Canada: Canadian Pittsburgh Industries Limited



Designing a modern, automatic food service for schools, plants, offices and institutions can be tricky unless you know the facts. That's why Automatic Canteen has prepared this new Food Service Planning Kit especially for architects. It gives you helpful information on the different types of food service-manual, automatic or combinations of each-

together with their advantages and disadvantages. It describes the equipment needed for any type location; lists dimensions; tells how much space is required; what utility connections are needed. A copy is yours for the asking. Just use the coupon.



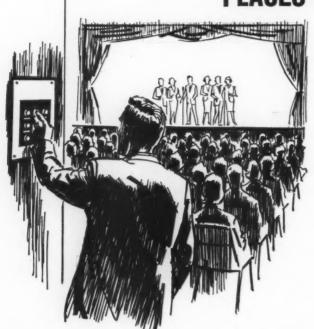
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New *Executone* sound systems give you great design freedom in planning PLACES OF ASSEMBLY



1. Broaden capabilities of large rooms—with sound.

Today's institutional activities — and the economies of space use — demand a broad range of service from public assembly rooms and buildings.

A civic auditorium, for example, must accommodate meetings, broadcasts, musical and theatrical events, ceremonies, expositions, etc. A gymnasium may be called upon to serve as a social hall... theater-in-the-round...community forum...exhibition area.

A sound system capable of handling such diverse functions can be provided with surprising economy—if it offers enough flexibility of input, coverage and control.

Executone's unique zero-level design, with transistorized controls, accepts any combination of close or widely separated inputs—mikes, record players, tape decks, movie projectors, radio or TV tuners and telephone line sources. An

Executone control panel, capable of mixing 9 or more inputs, is available in a light, fully portable console. It requires no plug-in power source or ventilating; can be located at any distance from the inputs and power amplifier — without noise or loss of quality. Zero-level transmission permits use of single conduits for both input and output wiring — for substantial installation savings.

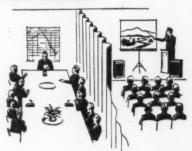
2. Control sound from best audience vantage.

Control of sound levels and balance depends on some person's subjective judgment. This person should be situated where his hearing corresponds truly to that of the audience, to insure full coverage without excessive volume. In an auditorium, for example, controls traditionally located backstage or in projection booths may now be brought unobtrusively into the audience. A rear column or wall can accommodate a compact, flush-mounted Executone mix-

er. Or a portable mixer may be plugged into a special receptacle under a conveniently located seat. These units—with edge-lighted lucite panels—can be operated even in a completely darkened auditorium.

Another solution is the placement of Executone mixers in conventional locations—with small, matched line amplifiers at critical spots in the audience. In a church, an usher's station would serve. In a night club, a rear table might be chosen. Such auxiliary controls greatly increase the system's flexibility.

3. Permit split or combined room functions.



Frequently, spaces are physically joined—or subdivided—to accommodate varying events or audiences of varying size . . . e.g., banquet rooms, multi-purpose school rooms, etc. In these cases, Executone system flexibility is important—especially in the location of sound sources and controls. It becomes even more vital when isolated areas are to be joined by sound alone. In planning a church system, for example, you may wish to offer your clients the use of an area for overflow congregations . . . sound distribution to selected classrooms and Brides'

or Mothers' rooms . . . to and from chapels and sanctuaries.

Executone implements these functions, at low cost, by simple input switching through the main power booster – for bridging and separating individual sound channels. Small, conveniently placed, transistorized line amplifiers serve as secondary controls. Executone's zero-level transmission eliminates distortion and noise problems.

4. Maintain quality reproduction from moving sources.



Church and synagogue services illustrate a problem that arises frequently in large-room design. That is: the need for, multiple sound pickups capable of evenly reinforcing speech or music from roving participants. System planning based on the complete Executone line finds ready solutions. For example, the wide variety of specialized microphone pickup patterns helps the church designer provide sensitive coverage of altar, pulpit, organ, choir, Stations of the Cross, and all other points from which services are conducted. Placement of controls in the

congregation—as explained in (2), above—assures maintenance of proper volume and balance.

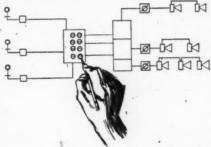
5. Link separated functions with intercom.





Executone communications are invaluable in rooms where a number of separate functions have to be coordinated. In theaters or auditoriums, for example, stage management, lighting and other functions mesh smoothly when instant contact is available—via Executone.

6. Apply system planning to acoustics, aesthetics and performance.



The importance of a coordinated sound system goes far beyond the savings

available through single-source specification. Matched electronic characteristics are essential for clear, life-like reproduction. System planning minimizes the architect's aesthetic problems, too. The compactness and smart detailing of Executone components . . . the wide choice of units and unobtrusive mountings . . . flexibility of placement . . . all contribute to good appearance.

The broad line of reproducers meets the special acoustic demands of any interior. Low-level coverage is available through a wide selection of multiple ceiling reproducers . . . high-level coverage through carefully designed theater type systems.

With an integrated Executone system, you also have the assurance of full installation responsibility, and on-the-spot maintenance for any contingency — by factory-trained technicians. There are no field assemblies. Each system is manufactured and tested—in its entirety—at the Executone factory. All units are engineered to stringent transportation terminal standards—for operation 24 hours a day, 365 days a year. Every component is guaranteed by the factory for a full year.

Use the coupon below for complete data including wiring plans and specifications on Executone sound systems for places of assembly.

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"U. S." sinks offer many excellent advantages. Scratchresistant, stain-free, smooth gray, green or white glazed surfaces assure a lifetime of beauty. No honing or scouring is ever required. High mechanical strength and superior heat-shock resistance for years of reliable, maintenance-free service.

Your Laboratory Furniture Dealer can give you complete details. See him or write for your free copy of new Bulletin L-10 describing over 50 standard sizes and many styles.

CHEMICAL CERAMICS DIVISION



120G-3

The Record Reports

continued from page 66

Elections

The Chicago Chapter of the American Institute of Architects has elected R. Rea Esgar, partner, Dunlap and Esgar, president of the chapter.

William J. Bachman, Bachman and Bertran, past president of the A.I.A. Chicago Chapter, will assume duties of the director of the Illinois State Region of the A.I.A. Other new officers elected were: 1st vice president: Jack D. Train, Perkins & Will; 2nd vice president, Walter H. Sobel, Sobel & Associates; secretary, James D. Arkin, City Planning Dept. of Chicago; treasurer, Paul D. McCurry, Schmidt, Garden & Erickson. Directors elected for three year terms were: Derald M. West and Thomas E. Cooke. Carl A. Metz was newly elected director for a year term.

The Southwest Washington Chapter of the A.I.A. elected at their annual June meeting the following officers: John E. McGuire, president; Robert M. Jones, 1st vice president; K. Walter Johnson, 2nd vice president; James Martin Harris, secretary; Donald W. Seifert, treasurer; Warren A. Brown and John G. Richards: executive board.

Newly elected officers of the International Builders Exchange Executives. Inc. are: Thomas P. Lipscomb, Atlanta, Ga., president; Victor B. Engel, Concord, Calif., 1st vice president: Clarence L. Ebert, Reading, Pa., 2nd vice president; Anthony S. Drabek, Columbus, Ohio, 3rd vice president; Viola E. Harris, Orlando. Fla., treasurer. The International Builders Exchange Executives is an international association of executive secretaries representing Builders Exchanges through the 50 states and Canada, who assemble to exchange operational information and promotion ideas to be of further service to the construction industry at both regional and international levels.

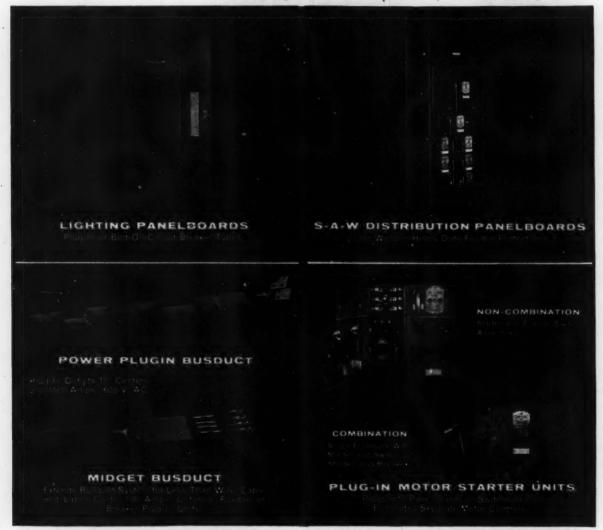
U.S. State Department Grants Available

Awards for advanced study and research will be available to young continued on page 80



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AC 139

78



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The Record Reports

continued from page 76

artists for the academic year 1962-1963 under the Educational Exchange Program of the United States Department of State.

Under the Fulbright Program, these awards provide transportation, tuition and maintenance for one academic year within one of 32 participating countries. Awards under the Inter-American Cultural Convention Program cover transportation, tuition, full or partial maintenance, and will be available in 15 Latin American countries.

General eligibility requirements are: U.S. citizenship, a Bachelor's degree or its equivalent in professional training, language ability commensurate with the demands of the proposed study project and good health. Preference is given to applicants under 34 years of age.

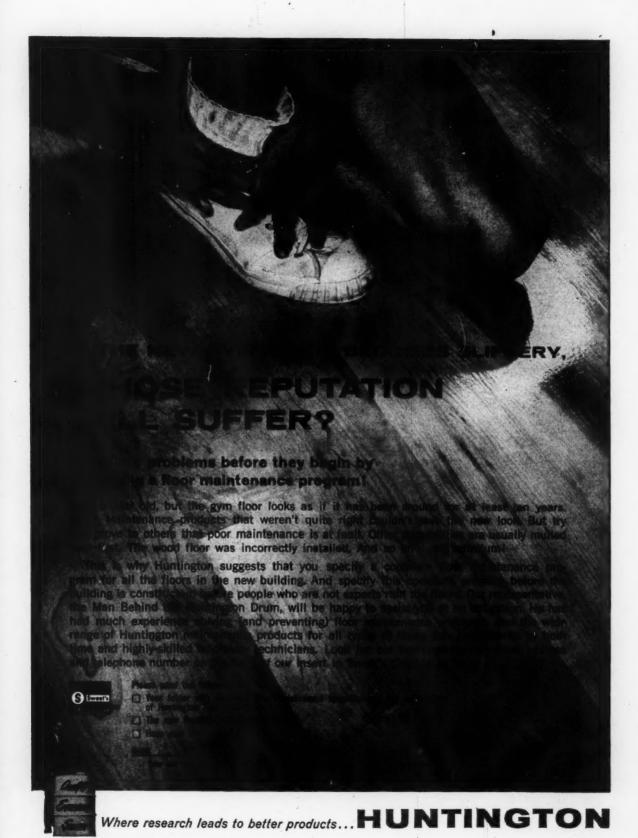
Application forms and detailed information may be had from the Institute of International Education, 800 Second Ave., New York, or from one of the regional offices, Chicago, Denver, Houston, Washington, D. C., San Francisco. Requests for applications must be post-marked before Oct. 15, 1961. Completed forms of candidates applying directly through the Institute must be submitted by Nov. 1. Individuals currently enrolled at a college or university should inquire at the office of their campus Fulbright Adviser for information.

Selective Admissions Program Initiated at Clemson

During recent years interest in admission to the Clemson College School of Architecture has increased so steadily that the school has initiated a selective admissions program to screen all applicants prior to registration for the fall architecture session.

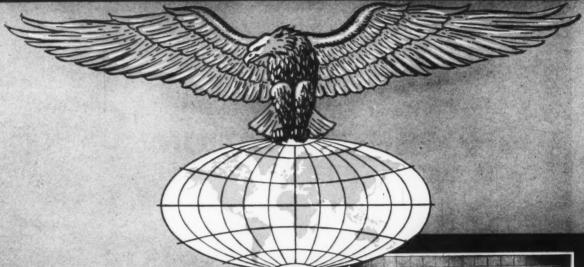
The School, which made the transition from a non-accredited architectural department six years ago to a fully accredited school, has attracted over 180 September applications.

A screening program was introduced last year with success. Since then a special committee of faculty from the architectural school has continued on page 84



HUNTINGTON E LABORATORIES • HUNTINGTON, INDIANA • Philadelphia 35, Pennsylvania • In Canada: Toronto 2, Ontario

These advanced AMSCO sterilizers....



The sterilizers shown on these pages embody nearly 70 years of investigation dedicated to the development of ever-new and better hospital techniques and equipment.

In serving the phenomenal strides of medical science, the American Sterilizer Company is honored to have pioneered virtually every advancement in the field of sterilization during the 20th Century.

The modern sterilizers presented here are tangible evidence of but a few Amaco achievements in the area of advanced hospital sterilizers for the 60's. Each in its own way is supremely efficient . . . possesses great speed and versatility with the dependability expected of Amaco.

Yet . . . tomorrow Ameco's research facility will yield new techniques and new equipment for hospitals in every country of the free world. For our dedicated purpose is constantly to seek the better way.

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- Dual, fully automatic controls
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- Adaptable to any ethylene-oxide mixtures.



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- Choice of three automatic cycles:

 1. Wash and sterilize

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 11"x11"x24" chamber.



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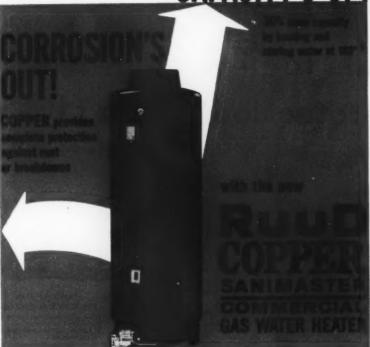
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- Economical initial



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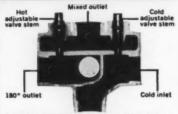


CAPACITY'S UP!





CORROSION'S OUT!...effectively eliminated by the rust-defying tank. It's made of solid copper, reinforced with steel for extra strength. Copper allows the Sanimaster to heat and store water at 180° constantly. This high temperature will eventually break down ferrous metal tanks and cause corrosion. Non-ferrous copper remains unaffected and rust free.



*CAPACITY'S UP! The Duo-Temp Mixing Valve (standard equipment) mixes the stored 180° water with cold to achieve any desired degree of general purpose water. It delivers both 180° sanitizing water, and a lower, general purpose temperature at the same time. This mixing boosts the effective tank capacity 30% or more, depending on the general purpose temperature selected.

It takes a special kind of water heater to handle the hightemperature, high-volume hot water needs of today's commercial demands.

The new, improved line of Ruud Copper Sanimaster Commercial Gas Water Heaters are designed and built specifically for this purpose.

Each of the nine models available is a self-contained, automatic storage water heater. Their compact design saves space and provides the contractor with greater installation flexibility. In addition, expandability of the system is simple and economical with the Ruud Equa-Flow Manifold system.

Sanimasters are warranted for five years and carry industry seals of the N.S.F., A.G.A., and A.S.M.E. The new Ruud Engineer's Manual now provides full facts about every model and the Certified Sizing Guides, available for 23 use-classifications permit easy, accurate selection.



For a complimentary copy of the new Ruud Sizing Guides, send request on company letterhead, and a Ruud Commercial Water Heater specialist will personally deliver a set to you.

Write today to:

RUUD MANUFACTURING COMPANY • 7600 S. Kedzie Ave., Chicago 52, III.

Subsidiary of Rheem Manufacturing Company

Manufacturers of commercial and residential water heaters of the highest quality

The Record Reports

continued from page 80

been established to interview each applicant. This effort to select the student best fitted for the five year design course, says Dean Harlan E. McClure, is aimed at weeding out the students not capable of handling their mathematics-English courses and also the extensive basic design work. According to Dean McClure, the "mortality rate" sharply decreased last year due to selectivity in the program—i.e., the percentage of students dropping architecture due to disinterest or failure to maintain passing averages in other courses has declined.

1961-62 Program

Clemson's 1961-62 schedule includes 12 lecturers from throughout the United States speaking on subjects centered on the many forms of visual arts. These and other educational adjuncts are financed through Clemson's Architectural Foundation.

An integral part of the program is the showing of exhibits of recognized contemporary artists in the fields of painting, photography and sculpture in the newly dedicated Rudolph Lee Gallery. Both the lectures and art exhibits are open to the public and student body.

A recent staff addition at Clemson has been sculptor John Acorn. A native of New Jersey and former teaching assistant at Cranbrook Academy in Michigan, he will teach basic design and an elective course in sculpture. One more faculty addition will be a South American Fulbright architect replacing Professor George Means, himself a Fulbright scholar, who will lecture in Turkey next year.

Students Win Competitions

In the past year three Clemson students won first place in national architectural contests. They were: Robert Johnson, Koppers Roofers Award for a hospital design; Kemp Mooney, Garden Rowhouse National Competition with an urban apartment for Milwaukee, Wis.; and John Preston, A.I.A. Medal as outstanding fifth-year architectural student at Clemson and an A.I.A. National Scholarship for graduate study in city planning.

more news on page 96



BUILD WITH BLOCK

and build for keeps

Nothing's a better-looking building investment than the modern concrete masonry wall. Nothing's sounder-especially when reinforced with Dur-o-wal, the engineered steel rod reinforcement with the patented trussed design. Can more than double flexural wall strength, outfunctions brick-header construction. Write to any Dur-o-wal address below for 44-page Armour Research Foundation test report.

DUR-O-WAL Masonry Wall Reinforcement and Rapid Control Joint

DUR-O-WAL MANUFACTURING PLANTS

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- Dur-O-wal Drod., Inc., Box 528, SYRAGUSE, N. Y.
 Dur-O-wal Drod., Inc., Box 5446, BIRMINGHAM, ALA
 Dur-O-wal Div., Frontier Mfg. Co., Box 549, PHDENIX, ARIZ.
 Dur-O-wal Drod., Inc., 4500 E. Lombard St., BALTIMORE, MD.
 Dur-O-wal Drod., Inc., 4500 E. Lombard St., BALTIMORE, MD.
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Strength with flexibility—the two basic factors for a repair-free masonry wall are assured by these intelligently engineered companion products. Dur-o-wal reinforcement, top left, increases flexural strength 71 to 261 per cent, depending on weight Dur-o-wal. number of courses type of mortar. The ready-made neoprene compound flange of Rapid Control Joint, beneath, flexes with the wall, keeps itself sealed tight.



In your specifications it pays to name products with finishes protected by **CrysCoat**®

When you specify Oakite CrysCoat as a pre-paint treatment for the steel products in your plans, you are specifying a top quality phosphating process for bonding paint to metal. It means the products will be protected against under-paint corrosion, unsightly peeling, and creeping rust surrounding accidental paint damage.

To the advantage of architects and building owners everywhere, a wide variety of steel products is now being CrysCoated. Write for more information about CrysCoated products. Oakite Products, Inc., 83 Rector Street, New York 6, N. Y.

CrysCoat paint-bonding treatment makes architectural products look better...last longer





PHILADELPHIA DISCOVERS that traffic congestion either ends at curbside or extends into building lobbies—depending upon the kind of elevatoring used. Why? Because there is more to completely automatic elevatoring than simply leaving the operator out of the car? Any elevator installation that fails to provide complete automation for all of the constantly changing, widely varying traffic patterns that occur throughout the day and night—invites curtailed service, long waits and traffic congestion. This applies in a like degree to the greatest skyscraper and the smallest commercial or institutional building. How do tenants and visitors react? After all, they are people. They react in a like manner to elevator service. And a building's reputation soon reflects their reactions. The mark of a CLASS "A" building—large or small—is completely automatic AUTOTRONIC® elevatoring. It accurately predicts and delivers a magnificent performance. Since 1950, more than 1,100 new and modernized buildings across the United States

and Canada have contracted for AUTOTRONIC elevatoring by OTIS-the world's finest!

Benjamin Franklin Parkway looking east from Art Museum



AUTOTRONIC OR ATTENDANT-OPERATED PASSENGER ELEVATORS . ESCALATORS . TRAV-O-LATORS . FREIGHT ELEVATORS . DUMBWAITERS ELEVATOR MODERNIZATION & MAINTENANCE . MILITARY ELECTRONIC SYSTEMS . GAS & ELECTRIC TRUCKS BY BAKER INDUSTRIAL TRUCK DIVISION





mating joints automatically seal on assembly with MARMET's series 6442

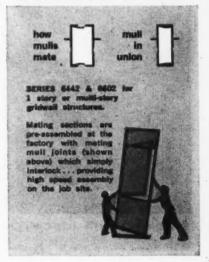
Resplendent atop a hill, outside Spokane, Washington, Rockwood Manor gleams with the brilliance of MARMET's 6442 Series aluminum curtain wall. Wisely chosen for its economies in assembly, as well as initial cost . . . the Series 6442 is fabricated in large gridwall sections . . . well adapted to either single level or multi-level structures. Each large grid section, a complete unit from the factory, simply interlocks into the next grid section with a special mating joint (internally weatherstripped) for an automatic seal on assembly.

Note the detailed panel at right. These special joints absorb cumulative expansion horizontally and/or vertically in structures such as Rockwood Manor. Frames for operating sash and doors are built into the grid sections to save the cost of installing lintels and jambs on the job.

When you select curtain wall for your next job . . . whatever the requirements may be . . . compare costs on an erected price basis with any one of MARMET's four basic curtain wall series.

Variations possible in each series provides a beautiful window wall for every purpose . . . all engineered to achieve a more effective result at lower erection cost.

Fenestration in the lounge, custom fabricated by MARMET. The beautiful interior of Rockwood Manor's sumptuous front lounge, is well daylighted through custom MARMET curtain wall sections, specially fabricated to fit the undulating contour of the ceiling and roof lines.





When any unusual site conditions require special technical assistance, the MARMET field engineer is available on 24 hour call to expedite job progress. During the construction of Rockwood Manor, extensive field service was provided by MARMET technical men. Write or phone for complete details on this service.

For additional information on the complete line of MARMET products — consult Sweet's Catalog File No. Mar write to MARMET



CORPORATION

300-Q Bellis Street • Wausau, Wisconsin

Flame spread safety With woodfiber

economy

Simpson

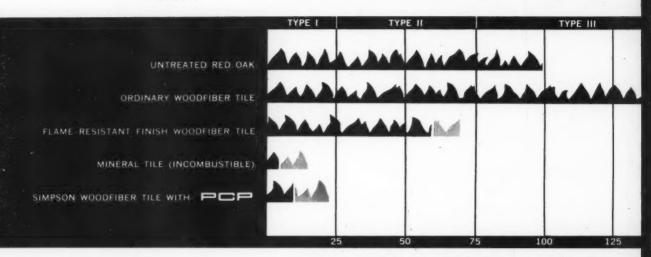
Tunnel tests conducted in accordance with ASTM E84 60T give Simpson PCP woodfiber tiles flame spread ratings low as mineral tile.

PYRO-CHEM PROTECTION

The most important advancement in fire safety ever made in woodfiber acoustical materials. Exclusive with Simpson!

PYRO-CHEM PROTECTION (PCP) GIVES YOU TYPE I FLAME-SPREAD RATING IN A COMPLETE LINE OF ACOUSTICAL PRODUCTS





PCP acoustical title certified as Type 1. E84-60T

1	Pyre-Chem Protected woodfiber tile	Flame-resistant finish woodfiber tile*	Mineral tile (incombustible)
Flame-Spread	10 - 23	60 - 70	5 - 15
Fuel Contribute	d 23 - 27	42 - 44	25 · 29

*Simpson FRF rating - other cellulose tiles rate up to 100 and over

Untreated red oak — rated at 100 Asbestos rated at — 0 Type I 0.25 Type II 26.75 Type III 76.200 Note PCP Forestone was tested by a leading independent research institute. Name of laboratory and complete test results upon request.



SIMPSON HAS DEVELOPED PYRO-CHEM—an exclusive process that impregnates every fiber with fire-proofing chemicals. In recent tests conducted by a leading independent research institute (name on request) Simpson PCP woodfiber tiles scored flame-spread ratings as low as 13—all within the 0 to 25 range required for certification as a Type I material under ASTM E84-60T Tunnel Test.

Woodfiber acoustical tile is accepted as the most economical product to provide effective noise control. Simpson woodfiber tile with flame-resistant finish is equal or superior to any surface treatment available. But until today architects, contractors and building committees have been forced to more expensive materials when a Type I flame-spread rating is required.

WHAT THE TUNNEL TEST TELLS YOU ABOUT FIRE HAZARDS

The tunnel test (used to test the efficiency of Pyro-Chem) measures how far a building material will propagate a flame from an outside fuel source. It simulates actual fire conditions under laboratory control. This tunnel test was developed by the American Society for Testing Materials. It is accepted by the Acoustical Materials Association, Building Officials Conference of America, and Uniform Building Codes of the International Building Officials Conference.

SAVE UP TO 1/3

Now you can have Type I flame-spread protection equal to that of mineral tile costing up to 15 cents more per square foot. Simpson PCP acoustical tile is far superior to ordinary woodfiber tiles, yet costs only pennies more per foot.

PCP ACOUSTICAL TILE PYRO-CHEM PROTECTION AVAILABLE IN SEVEN PATTERNS

Simpson offers a complete variety of sizes, thicknesses, and surfaces. Four textures are available in Forestone® PCP plus two perforated PCP patterns. This makes it possible to select the specific combination of beauty, noise control, economy, and fire safety required for each installation.

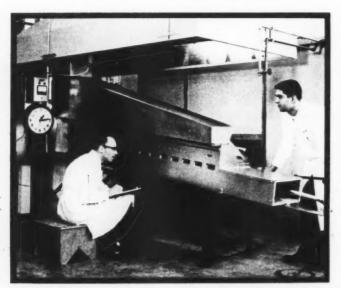


PCP ACOUSTICAL PRODUCTS

						,
SIMPSON PRODUCT	THICK- NESSES	SIZES	TYPE EDGE	INSTALLATION METHODS	FIRE HAZARD CLASSIFICATION	EFFICIENCY* (NOISE RED. COEF.
FORESTONE TEXTURES DRIFTWOOD PCP	9/16"	12" x 12"	Flange joint	Stapling or nailing	ASTM E 84-60T Type I Flame-Spread 10 - 23	.60 to .70 depending on thickness and method of installation
STRIATED PCP	9/16"	12" x 12"	Beveled.	Cementing, nailing		
STARLITE PCP	9/16"	12" x 12"	kerfed & rabbeted	or mechanical suspension		
FORESTONE FISSURED PCP	*	-		,		
,	9/16" 3/4"	12" x 12"	Beveled	Cementing, nailing or mechanical suspension	ASTM E 84-60T	.60 to .70 depending on thickness and method of installation
	9/16" 3/4"	12" x 24"	Flange joint centerscored	Stapling, nailing or mechanical suspension	Flame-Spread 10 - 23	
	3/4"	12" x 23-3/4"	Beveled, kerfed & rabbeted	Exposed Z or T mechanical suspension		
PERFORATED PATTERNS						
RANDOM DRILLED PCP	1/2"	12" x 12"	Beveled	Cementing, nailing or mechanical	ASTM E 84-60T Type I Flame-Spread 10 - 23	.60 to .75 depending on thickness and installation method
	3/4"	12" x 24"	Centerscored	suspension		
	1/2" 3/4"	12" x 24"	. Flange joint centerscored	Cementing, nailing or stapling, mechanical suspension		

*Figures given are for untreated tiles.
Ratings for PCP tiles are not yet available,
but they are expected to correlate
closely with those for untreated tiles.
See Sweet's catalog (11a Sim) for complete tables.

The Los Angeles Fire Department, recognizing the importance of the problem, has been conducting full-scale experiments for several years to determine performance of various materials under actual fire conditions. Their experiments have proved a very close correlation between performance under actual fire conditions and tunnel test ratings.



Pictured is tunnel-testing equipment at Simpson's Seattle, Washington, laboratory. Simpson is the first building materials manufacturer to build its own fire test tunnel, a replica of the one used by U.S. Forest Products Laboratory. Pyro-Chem is the latest of a long line of dramatic new building products developed through Simpson's continuing research program.

LOWEST COST TYPE I FLAME-SPREAD PROTECTION

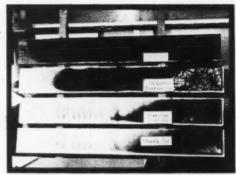
For the first time it is possible to obtain maximum flame spread protection combined with the tremendous economies of woodfiber acoustical material.

New Simpson PCP acoustical products may be used anywhere an **absolutely** incombustible ceiling is not required. This makes possible great savings in construction of schools, clinics, churches, stores, restaurants and similar buildings. Simpson PCP products were especially designed for those institutional, commercial and recreational facilities where a low flame-spread rating and effective sound control are necessary, but where cost savings are desired.

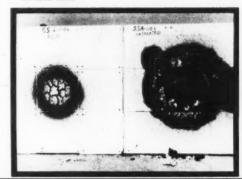
WOULD YOU LIKE A PYRO-CHEM DEMONSTRATION AND SAMPLES?

Your nearest Certified Simpson Acoustical Contractor will be glad to provide you with samples and arrange for a demonstration at your convenience. He is listed in the Yellow Pages under Acoustical Materials.





Typical sample panels (top) after testing in Simpson's tunnel test equipment. Sample panels after testing (bottom) in accordance with Federal Specifications SSA-118b. Left: PCP tile after 40 minute test. Right: untreated woodfiber tile after only 20 minute test.



SIMPSON TIMBER COMPANY 2069 WASHINGTON BUILDING, SEATTLE 1, WASHINGTON

PYRO-CHEM protection sounds wonderful, but seeing is believing. Please arrange for me to see

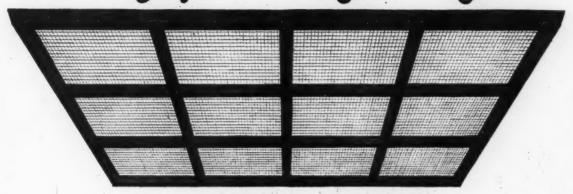
believing. Please arrange for me to see

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WOOD-BEAM CEILING

MODULAR SUSPENSION SYSTEMS

LUMINOUS . . . INTEGRATED . . . ACOUSTIC

2' x 2', 2' x 4', 4' x 4' Modules 2 Ft., 3 Ft., 4 Ft. Parallel Beams



WOOD-BEAM 4'x 4'FIXTURES
SURFACE . . . RECESSED . . . PENDANT

One fixture for all installations. Designed for individual mounting, or in any pattern...furnished for six 48" rapid start lamps, any 2' x 2 diffuser.

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Sizes up to 48" x 96"... 34" cube cell ALUMINUM louvers, baked enamel or anodized finishes... For use with Neo-Ray's companion extruded aluminum grid system or as INTRA-TEX trackless non-modular system for completely unbroken wall to wall ceiling treatment.

See Neo-Ray's new QUIET-CEL Louvered Ceiling at the La Fonda del Sol Restaurant, Time-Life Building, New York City

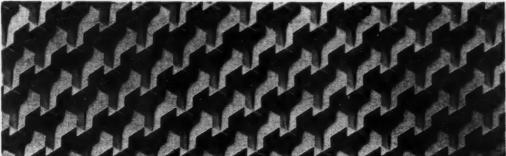
Write for

Brochures,

Lighting Details, Budget

Estimate, and Samples

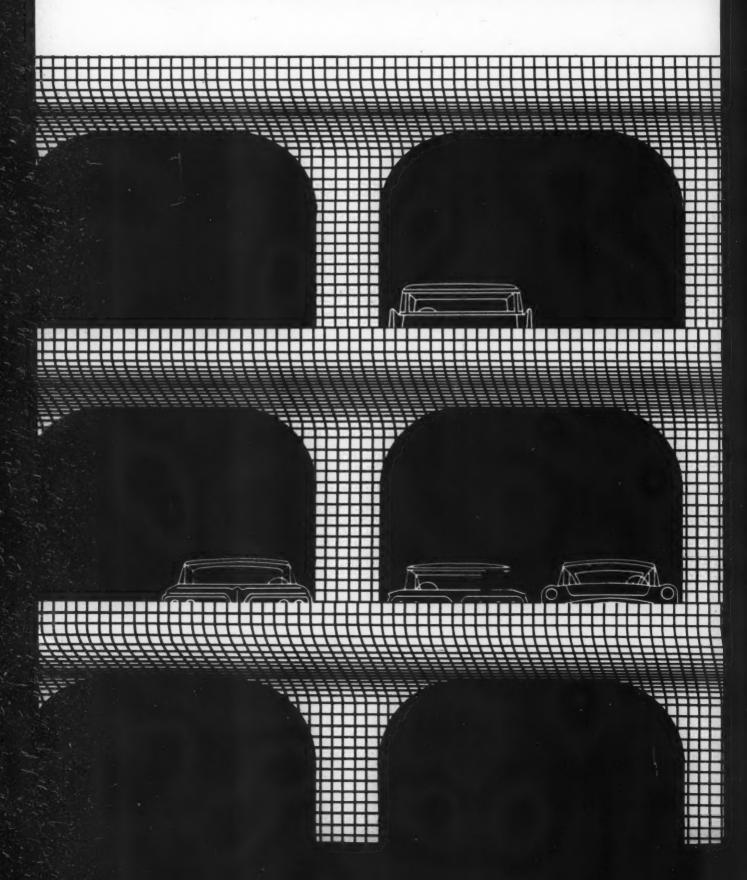
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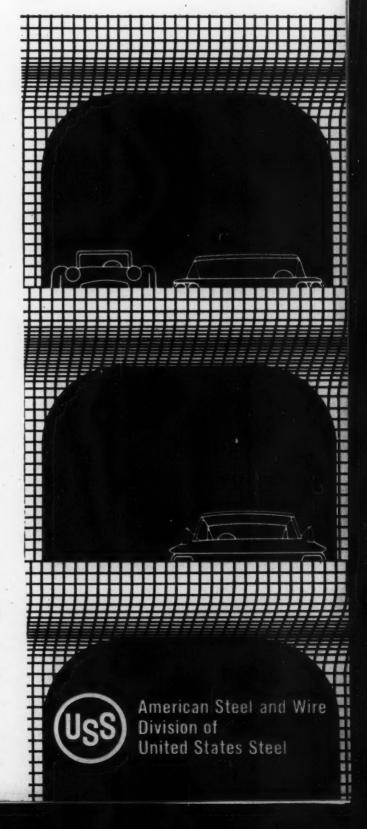
for innovators in reinforced new 1/2"dia. structural wire fabric



concrete... increases slab strength, lowers costs

Here's a new Structural Wire Fabric that permits high working stresses for all reinforced concrete jobs such as this parking garage. Structural Wire Fabric is prefabricated to your exact specifications from cold-drawn wire up to 1/2" diameter and spaced as close as 2" on centers in both directions. Its minimum tensile strength is 75,000 psi with a minimum yield strength of 60,000 psi. All intersections are electrically welded . . . provides positive mechanical anchorage in the concrete. ■ Structural Wire Fabric is delivered to the job in cutto-size sheets that can be quickly and more accurately placed ... inspection is simplified. It eliminates thousands of time-consuming placing and tying operations required by bars goes in at least 1/3 faster and saves on placement costs. ■ If your current or future designs call for a departure from yesterday's limitations, consider Structural Wire Fabric. We'll be glad to assist you or your structural consultant with complete technical recommendations. Just contact our nearest sales office or write American Steel and Wire, Dept. 1252, Rockefeller Building, Cleveland 13, Ohio.

Innovators in wire



Halory Taylor. THIS MARK OF LEADERSHIP IDENTIFIES THE MOST COMPLETE LINE OF MODERN DRINKING FIXTURES

The Record Reports

A.S.C.E. Awards for 1961 Announced

Recipients of the 1961 prizes, awards and fellowships of the American Society of Civil Engineers include the following: J. James R. Croes Medal: a gold medal to George Winter, Cornell University, Ithaca, N. Y., for technical paper, "Lateral Bracing of Columns and Beams"; Thomas Fitch Rowland Prize: a cash award and certificate to Robert L. McNeill, Oakland, Calif., and H. Bolton Seed and Jacques de Guenin, both of the University of California, Berkeley, for technical paper, "Clay Strength Increase Caused by Repeated Loading"; Collingwood Prize: a cash award and certificate to Sidney A. Guralnick, Illinois Institute of Technology, Chicago, for technical paper, "Strength of Reinforced Concrete Beams"; Arthur M. Wellington Prize: a cash award and certificate to T. William Lambe, M.I.T., Cambridge, Mass., for technical paper, "Compacted Clay: Engineering Behavior"; Construction Engineering Prize: a cash award and certificate to Gail Knight, Roscoe, N. Y., for technical paper, "Concreting the West Delaware Tunnel"; Moisseiff Award: a bronze medal to John A. Blume, San Francisco, for technical paper, "Structural Dynamics in Earthquake-Resistant Design"; Theodore von Karman Medal: a bronze medal to R. D. Mindlin, Columbia University, New York City, in recognition of distinguished achievement in engineering mechanics: Earnest E. Howard Award: a gold medal to Herschel H. Allen, Baltimore, Md., for contributions made to advancement of structural engineering.

Winners of all awards and prizes have been invited to receive them at the annual meeting of the Society in New York City in October.

Urban University Expansion Studied in E.F.L. Report

How can the downtown university in today's urban overcrowding and congestion find the space for classrooms and laboratories that serve over half the entire college population of the country?

continued on page 104.



PRATT & LAMBERT RIGHT ON SCHEDULE FOR AMERICAN AIRLINES AT IDLEWILD



CRAFTSMANSHIP IN THE PACKAGE



Hundreds of gallons of P&L finishes were chosen on color schedules and specifications for this superbly beautiful passenger terminal at New York International Airport.

Believed to be the world's largest stained glass wall, a 317-foot abstract design by Robert Sowers creates a gem-bright, many-colored sun breaker on the southern side of the terminal.

Strong emphasis on color styling in ceramic, glass and metal decorative effects throughout this 700-foot-long building called for superior quality in the matching and harmonizing paints. The specifications of Kahn & Jacobs included Pratt & Lambert Lyt-all Flowing Flat, Double Duty Primer and Vitralite Enamel.

Pratt & Lambert representatives offer architects sound, practical counsel on all finishing problems ... surface preparation, color styling ... and on the right materials to provide best protection. Call your P&L representative or write: Pratt & Lambert Architectural Service Department, 3301 38th Ave., Long Island City 1, N.Y.; 4900 S. Kilbourn Ave., Chicago 32, Ill.; 75 Tonawanda St., Buffalo 7, N.Y.; 254 Courtwright St., Fort Erie, Ontario.



American Airlines Passenger Terminal New York International Airport Idlewild, Long Island, N. Y. ARCHITECTS: Kahn & Jacobs, New York City GENERAL CONTRACTOR:

Turner Construction Company,
New York City
PAINTING CONTRACTOR:

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Products Co., Grenada - Jackson Ready-Min Corp., Jackson

In PRESTRESSED CONCRETE

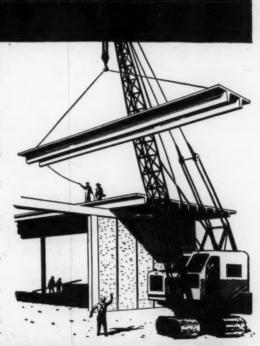
Prestressed concrete recommends itself to the creative architect seeking an expressive, exciting, contemporary medium-a bold and imaginative construction method.

The wide variety of prefabricated prestressed concrete units available may be further varied to meet architectural requirements of each job. Girders, beams, columns, wall panels, floor and roof units and other members become an integral part of the total design concept in performance of their structural function.

Favored with an honest natural finish that is striking alone, prestressed concrete combines well with other materials in important visual areas. A compelling spatial and structural interest is created wherever it is used.

For more economical and effective designs of enduring structures consider prestressed concrete.

- LONG SPANS, SHALLOW DEPTHS...for fewer columns, more usable floor space. High strength produced by prestressing allows the design of well proportioned building members of limited depth for given spans.
- CUTS CONSTRUCTION TIME Plant manufacture of prestressed members and site work proceed simultaneously to shorten job schedule.
- FINISHED PRODUCT OF PLANT CONTROLLED QUALITY A wide range of architectural and structural shapes meeting PCI requirements are available at local plants.
- FIRE RESISTANT Tests have proven the high fire resistant quality of prestressed concrete.
- ATTRACTIVE APPEARANCE FLEXIBLE IN DESIGN Can take a variety of aesthetically agreeable shapes and bold new designs. Refined prestressed designs result in lighter weight structures.
- LOW INSURANCE COST Durability and fire resistance earns low insurance premiums.
- MAINTENANCE-FREE Requires no painting, little or no waterproofing. Needs no protection from corrosion.
- LOW INITIAL COST Design flexibility, quality plant production and short construction time mean superior structures for less money.





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don't make me a garbage collector!

> If you must handle soggy garbage even dream kitchens can turn into nightmares!

For my new home, I insist on a new, beautiful In-Sink-Erator disposer* Unlike others, In-Sink-Erator prevents jams thanks to exclusive, patented, automatic reversing feature. It swishes garbage down the drain never to be seen, smelled, or touched again . . . a good reason to specify, even with septic systems.

Write for full information, or a personal demonstration by an In-Sink-Erator representative. Address Dept. AR-761, In-Sink-Erator Manufacturing Company, 1225 14th St., Racine, Wis.

*An overwhelming majority of delegates to the Women's Conference on Housing voted the garbage disposer the most wanted appliance of all.





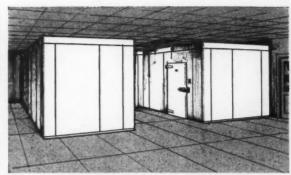


In-Sink-Erator's exclusive sound-absorben liner permanent! blankets interior of uni ...smothers sounds! That's why it's quieter than any other.



In • Sink • Erator 156

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Installation in the Suburban Country Club, Baltimore, Md. Specifications prepared by Henry Adams, Inc., Consulting Engineers, 2315 St. Paul Street, Baltimore, Maryland.

Bally pre-fab walk-ins

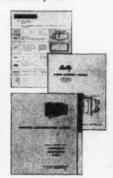
all-metal coolers and freezers

Sectional construction! Expandable any time! Costs less than built-ins!*

Newest concept in refrigeration storage makes construction of "built-ins" on the job obsolete. Precision made pre-fab sections permit installation anywhere, any size, any shape. Easy to increase in size or disassemble for relocation. Aluminum or galvanized steel are standard finishes. Stainless Steel and acid-resistant Porcelain also available. All finishes remain sanitary ... odor-free . . . rodent and vermin proof.

Free architect's fact file...

Includes guide for specification writers . . . 16-page Walk-In book . . . portfolio of 48 installation drawings and specifications. Also included is a Walk-In description form to request plans and specifications from Bally engineers for individual installations. Write on your company letterhead.



See Sweet's File section 26a/Ba.

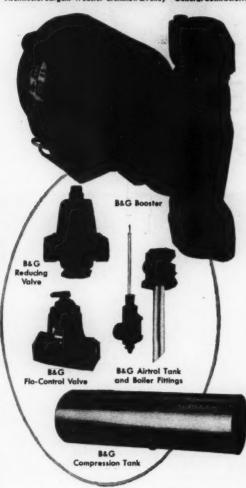
*Based on cost scales in Metropolitan areas.



Bally Case and Cooler, Inc. Bally, Pennsylvania



Architects: Sargent-Webster-Crenshaw & Folley General Contractor: Joseph E. Bennett Co., Inc. Plumbing, Heating & Ventilating Centractor: Northern Mechanicals, Inc



NINE **B&G°** BOOSTER PUMPS PROVIDE CONTROLLED COMFORT IN ST. LAWRENCE SEAWAY CORPORATION'S ADMINISTRATION BUILDING, Massena, N.Y.

The forced circulation hot water equipment in this outstanding office building is made by BaG... Booster Pumps, Flo-Control Valves, Airtrol Systems and Reducing Valves.

The building is divided into nine zones for better temperature control, with each zone served by a B&G Booster. A bronze Booster is used for circulating domestic hot water.

Over 3,500,000 Boosters are in service today...clinching evidence that their superior quality and performance has never been challenged. The reasons why they so completely dominate their field are not hard to find. Above all they are quiet—vibrationless...the prime essentials of a forced hot water circulating pump. They are dependable and profitable—not a cause of endless service and customer dissatisfaction. Sound design and sturdy construction of best materials assure efficient performance for years.

B&G Hydro-Flo Products are made by a company which offers help in any problem of design or installation—and with nation-wide distributors and service organizations.



Hydro-Flo SYSTEM BELL & GOSSETT

COMPANY

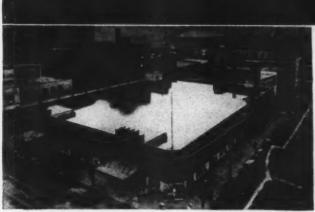
Dept. GU-32, Morton Grove, Illinois

Canadian Licensee: S. A. Armstrong, Ltd., 1400 O'Connor Drive, Toronto 16, Ontario

New from Koppers

25 years of bonded

KOPPERS ROOF BOND



This 27 year old store of the J. C. Penney Company in Milwaukee has been given a million-dollar-plus remodeling job which involved everything but the water-cooled roof. Although the Koppers coal-tar pitch roof has been constantly under water for 27 summers, it is still in excellent condition, and should last many more years.



The original 20 year bond on the John A. Nichols School in Syracuse expired more than 12 years ago, but this Koppers roof continues to give trouble-free service year after year. Its coal-tar base is totally resistant to water penetration. No other built-up roofing material can offer 32 year service records like these.

roof protection for the cost of 20!

So many Koppers roofs have been maintenance-free for twenty-five, thirty and even thirty-five years that Koppers has decided to introduce the Plus-25 Koppers Roof Bond, with no extra premium charge! The two roofs illustrated at left are examples of why we're offering architects this new 25-year roof bond. These roofs are typical of numerous installations that have established 25-year plus service records.

Koppers roofs have stood up against blustery winter extremes and sizzling summer heat. Coal tar, with its natural cold-flow characteristics, heals hairline cracks and stops real trouble before it can start. Coal tar also is completely resistant to water penetration, the most serious threat to long roof life; in fact, it is well-known that coal tar is the most water-resistant roofing material in existence.

So when you're specifying a roof for your next building, take advantage of the longer protection you'll receive with a Plus-25 Koppers Roof Bond. It costs no more than the 20-year guarantee available on other roofing materials. And you'll protect your building with a cover made of nature's finest protective material—coal tar—processed by the industry's most experienced manufacturer, Koppers Company, Inc.

Ask your Koppers representative to tell you more.

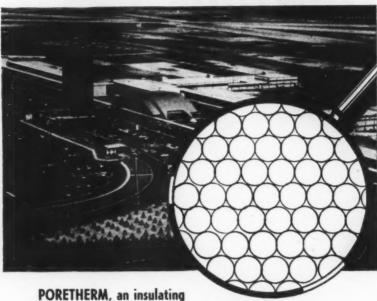


KOPPERS COMPANY, INC.

Pittsburgh 19, Pennsylvania

AIR WAS USED AT IDLEWILD

TO PROVIDE A BASE FOR ROOFING



cellular concrete, was chosen for the roof and promenade area of the huge International Arrivals Building.

Poretherm, with mechanically produced air-bubbles is an insulating concrete used in combination with corrugated steel decking. It is applied as a continuous surface with no seams or cracks and the "dead air" spaces act as an air-concrete blanket that produces good insulating qualities.

Poretherm, an inert material, is permanent and cannot deteriorate. In combination with corrugated steel deck it provides a lightweight, fire-resistant roof with high structural strength.

If your plans call for construction meeting these characteristics specify Poretherm insulating cellular concrete.

OTHER CANTILITE PRODUCTS WERE USED ON THE FOLLOWING BUILDINGS AT IDLEWILD:

INTERNATIONAL ARRIVALS BUILDING
Architects and Engineers: Skidmore, Owings & Merrill
PAN AMERICAN OVERHAUL BUILDING & TEST FACILITY
Engineers: Burns and Roe. Inc.

PAN AMERICAN OVERHAUL BUILDING & 1531 FACILITIES Engineers: Burns and Roe, Inc.
AMERICAN AIRLINES TERMINAL
Architects: Kahn & Jacobs
Structural Engineers: Severud, Elstad, Krueger Associates

FOOD PRODUCTION CENTER
Architect: Louis Allen Abramson
Structural Engineers: Fraoli, Blum, Yesselman
BUS GARAGE AND MAINTENANCE BUILDING

Architects: Brodsky, Hopf and Adler Engineers, Thompson & Czark

TELEPHONE BUILDING

Architects: Vorhees, Walker, Smith, SWISSAIR TERMINAL

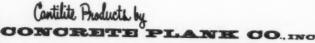
Engineers, Ammon & Whitney

Walker, Smith, Smith and Haines

nan & Whitney

For further information or details call or write us— See our catalog in Sweets'





The Record Reports

continued from page 96

Some institutions have built satellite campuses on the edges of their cities; others retreated to the country altogether. The urban university. if its function is to serve the needs of city people, must find another an-

In a report by Educational Facilities Laboratories, a Ford Foundation establishment to help American schools and colleges with their physical problems, the problems choking downtown educational institutions are explored and solutions suggested.

Entitled "Space Dollars: An Urban University Expands," the study deals with the most economic ways of staying in the city and providing increased instructional space as well.

At what cost in land price does a high-rise, multi-story academic building make more sense than a low one? The report reveals the answer to be when land costs approximately \$4.50 a sq ft or more. But perhaps a new building isn't necessary; there may be an industrial structure next door that can be converted into classrooms or laboratories for less money and in less time than it takes to construct a new one.

How to get more yield out of present space and reduce the need for the quantity of new building? How to determine the amount of future space to build?

The answers to these questions and others are based on a case history of Drexel Institute of Technology, a typical urban institution with typical problems located in downtown Philadelphia.

Copies of "Space and Dollars: An Urban University Expands" are available without charge from Educational Facilities Laboratories, 477 Madison Ave., New York 22, N. Y.

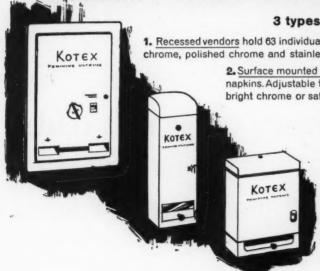
Cincinnati U. Appoints **New Assistant Professor**

Oystein Egeland-Eriksen has been appointed assistant professor of architecture in the College of Applied Arts of the University of Cincinnati. Born in Norway, he received his Bachelor of Architecture from the University of Durham, England. He' is particularly interested in civic design in architecture and has worked in the city planning field in Norway.

more news on page 246



Vendors for Kotex napkins lower absenteeism —eliminate embarrassment—raise morale



3 types to choose from I

1. Recessed vendors hold 63 individually wrapped napkins. Available in white enamel, satin chrome, polished chrome and stainless steel. Can also be surface-mounted, if desired.

2. <u>Surface mounted vendor</u> for boxed Kotex, holds 15 individually boxed napkins. Adjustable for free, five-cent or ten-cent vending. White enamel, bright chrome or satin chrome finishes.

3. Surface mounted vendor for envelope Kotex, dispenses 22 individually packaged napkins. Sturdy, 20-gauge steel cabinet available in white enamel, satin chrome or bright chrome. Operates as nickel, dime or free vendor.

The great convenience of restroom vendors is appreciated by both tenants and employees. And only Kotex offers three types—making it the most complete personal service available for your building. All are easy to install—all have trouble-free, longer-wearing cold-rolled steel coin mechanism.

Vending machines for Kotex belts augment this needed service.

More women prefer Kotex feminine napkins than all other brands

KOTEX is a trademark of KIMBERLY-CLARK CORPORATION

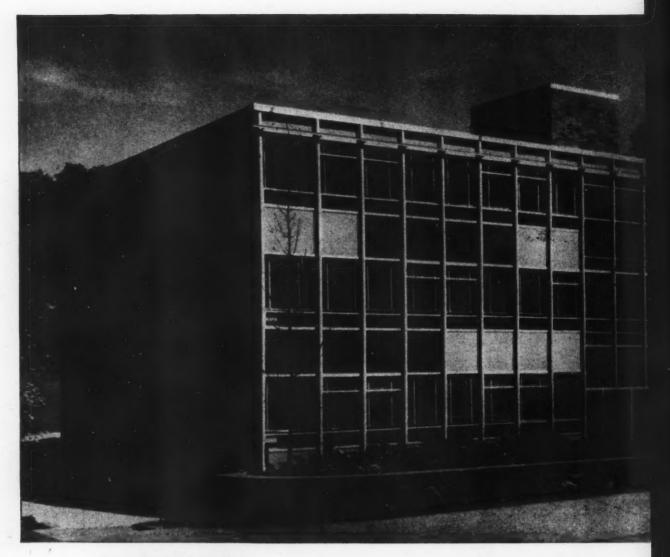
Kimberly-Clark Corporation, Department Number AR-91, Neenah, Wisconsin

Please send complete information on vending machine service for Kotex feminine napkins.

 Name
 Organization

 Title
 Address

 City
 Zone
 State



LUPTON aluminum curtain walls create striking patterns in color at Yonkers' new Walt Whitman Junior High School

The bold, imaginative use of colors and patterns. interiors and exteriors . . . is the most dramatic feature of ultra-modern, new, three-story Walt Whitman Junior High School, Yonkers, N.Y.

On two sides of the building, the architect utilized LUPTON Aluminum Curtain Walls...their spandrels forming attractive random patterns of several colors.

The Walt Whitman Junior High School illustrates the exciting design possibilities for you inherent in LUPTON Aluminum Curtain Walls. A wide range of colors, windows in various styles, panels of metal or glass allow you unlimited creativity in design. This handsome modern wall construction provides striking visual effects when used alone or with brick, stone, and other materials.

LUPTON Aluminum Curtain Walls and Windows offer you such dollars-and-cents features as: low initial cost, virtually no maintenance, and effective thermal insulation (two metal skins form a built-in vapor barrier).

Installation is worry-free because LUPTON assures you of accurate fitting and alignment of all component parts. It offers you a single source of responsibility for both the manufacture and the erection of the entire assembly.

See the LUPTON Aluminum Curtain Wall and Window Catalog in Sweet's (sections 3 and 17). Then talk to your local LUPTON man or write to us for details.



Walt Whitman Junior High School, Yonkers, N.Y.; Architect: Eli Rabineau, Yonkers, N.Y.; Engineers: Abrams & Moses, New Rochelle, N.Y.

Photograph by C. Y. D. Hebberd

OTHER LUPTON
PRODUCTS THAT MAY
SOLVE PROBLEMS
FOR YOU ARE:



Double Hung Windows. LUPTON DH-A2 aluminum double-hung windows are custom built for installation in masonry construction or metal curtain walls. Woven-pile weather-strip and barrel type suspension give smooth operation and weathertight closing.



Projected Windows. LUPTON "Master" windows in projected or casement types—used equally well in curtain walls or in masonry construction. Tubular ventilator members for extra rigidity...double weather-stripping, bronze hardware.

LUPTON°

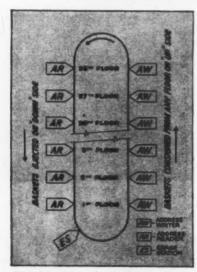
MICHAEL FLYNN MANUFACTURING COMPANY

Main Office and Plant: 700 East Godfrey Avenue, Philadelphia 24, Pa., West Coast Office and Plant: City of Industry (Los Angeles County), California. SALES OFFICES: Stockton, California; Chicago, Illinois; New York City; Cincinnati, Ohio; Dallas, Texas. Representatives in other principal cities.



KAISER CENTER, Oakland, California. ARCHITECTS: Welton Becket & Associates. GENERAL CONTRACTOR: Robert E. McKee General Contractors, Inc.

High speed mail distribution streamlines the paper flow in new Kaiser Center



moving parts, no levers, no between-station wiring... nothing to wear out. Diagram shows how address "writers" and "readers" are located between the building's 28 floors. If you are planning a multi-story building where mail discan be a problem, get the full details now on fast and efficient Recordlift!

At Kaiser Center's towering new 28-floor office building, mail is distributed every half hour. Yet it's all done without the usual cost and confusion of interfloor mailboy traffic.

Instead, a modern and efficient STANDARD CONVEYOR Recordlift whisks the mail, interoffice correspondence and other vital business records to central dispatching mailrooms . . . rapidly, economically, automatically.

Dispatching is simple, speedy, selective. The operator merely puts the material in the container, pushes the button for the proper floor and Recordlift delivers it in minutes. Mailboy hours are saved . . . speed

and efficiency are gained.

If you have a multi-story building roject pending, remember Recordlift, the modern mail system. It saves your client the cost and clut-ter of interfloor mailboys . . . with push-button speed, economy and efficiency!

Write today for illustrated data file . . . or simply clip this ad to your letterhead and mail it.

Check into these typical Standard Recordlift Installations

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- State of Minnesota Department of Highways St. Paul, Minnesota
- Ohio Oil Company, Findlay, Ohio
- Ontario Hospital Services Commission Toronto, Ontario, Canada
- ank of America Service Center Building San Francisco, California
- Bankers Life Company, Des Moines, lowa
- State of California Compensation Insurance Fund Building San Francisco, California
- State of Minnesota State Office Building St. Paul, Minnesota
- State of Oregon, Salem, Oregon
- Western Electric Company, New York, N.Y.
 First National Bank, Minneapolis, Minnesota

- Lincoln National Life Insurance Company Fort Wayne, Indiana
- City of Minneapolis, Public Library Division Minneapolis, Minnesota
- Great West Life Assurance Company St. Boniface, Manitoba, Canada
- Mutual Service Insurance Company St. Paul, Minnesota
- State of Texas Employment Commission Austin, Texas
- David Wohl Memorial Hospital Washington University Clinic St. Louis, Missouri
- State of California, California State
 Teachers Association, Burlingame, California
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The finish on a Dwyer Kitchen is permanent as only vitreous porcelain can be.

DWYER SERIES 69 KITCHEN

Recessed model shown is only 72" in length, yet provides refrigerator, with roll-out shelves and freezer, sink, storage, rangetop and oven.



Wyer compact kitchens and snack bars

Add up the many advantages of having full kitchen

facilities combined into a single, compact unit . . . and you'll select Dwyer

Kitchens! The choice of leading architects and builders for more than 30 years,

Dwyer units are engineered and designed for new and remodeled apartments,

motels, hotels and other rental properties - offices, institutions and homes.

DWYER PRODUCTS CORPORATION . MICHIGAN CITY, INDIANA













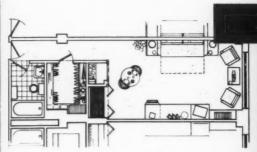
BUSINESS REPLY CARD DWYER PRODUCTS CORPORATION

Michigan City, Indiana

D

compact kitchens

MAIL CARD for Data File containing
Specifications, descriptions, dimensional drawings and roughings in
details of all Dayer
Kitchens and
Spack Bars



Dwyer recess models are designed with integral ends on countertop (no side cracks) for installation behind sliding, folding, and jack-knife doors and other types of closures. Kitchen remains completely out-of sight, yet is always ready for convenient preparation of meals, snacks or light refreshments.

One of 158 Dwyer Series E51 Kitchens installed in the EXECUTIVE HOUSE, Detroit.

Architect: Theodore Rogvoy, Detroit.



The Dwyer "400" Buffet Kitchen (shown)
and other models for the office,
provide for executive convenience,
customer hospitality, employee meals and
on-the-job coffee breaks. Result—
improved employee and customer relations.

Dwyer Series "400" in the office of bank president, Elkhart, Indiana. Closed, an attractive furniture piece open, a buffet kitchen with refrigerator, sink, electric rangetop and storage.



In the home game room or rental property,
the Dwyer Snack Bar is a complete
hospitality center for family fun and informal
entertaining. Refrigerator, sink, electric
cooking (optional) and storage are
combined into a single, compact unit
behind attractive wooden paneled
bar. Selection of sizes and finishes.

One of 52 Dwyer Model 800-1 Snack Bars installed in the RAMADA INN, Scottsdale, Arizona.

Architect: Richard Nelson, Phoenix.

Please send Data File to -

lddress







ARCHITECTS:
Gregson & Associates, Atlanta
ENGINEERS:
Ammons, McClure & Caldwell, Atlanta

MECHANICAL CONTRACTORS: Harvey-Tootle Plumbing & Heating Co., Jesup

MARLO fills new hospitals' prescription for healthful, year-round comfort conditioning

To help patients recover faster and staff members work more efficiently, two new hospitals in Georgia have been equipped with year-round air conditioning systems. They are the Wayne County Hospital at Jesup and the Decatur Memorial Hospital at Bainbridge. In both cases, Marlo air conditioning products were selected to provide winter heating and summer cooling in these modern buildings. A total of 244 individual pieces of Marlo equipment were installed, including 212 Seazonaire remote room units, two central station units, 12 unit heaters and 18 coils.

With Marlo's versatile line of air conditioning and heat transfer products, systems can be tailored to the exact needs of buildings of all types—commercial, industrial, institutional, multiple-residence. For complete information, contact the Marlo representative in your area.

MARLO coil co.

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ST. LOUIS 11, MISSOURI



MODERN DESIGN

USES WEST COAST LUMBER

WEST COAST DOUGLAS FIR
WEST COAST HEMLOCK
WESTERN RED CEDAR
SITKA SPRUCE
WHITE FIR

A homelike atmosphere replaces the customary institutional appearance in this Oregon convalescent hospital constructed with versatile West Coast Lumber. The adaptability of wood to the design objective also produced lower cost.

The 76-bed nursing home is built on a framework of West Coast Douglas Fir—2" x 4" and 2" x 6" wall framing and 2" x 8" rafters. Included are 20 two-bed and 12 three-bed rooms, two day rooms, two nurse stations, dining lounge, kitchen and a fully equipped laundry. Total square feet of floor area is 16.464.

A two-hour fire-resistant rated wall, composed of two thicknesses of \(^{5}_{8}''\) sheetrock applied to a framework of 2" x 6" West Coast Douglas Fir, separates 5,200 square foot units of the building. Exterior masonry at the firewall points satisfies a requirement for extension of fire protection the width of the eaves from ground level.

Colorful stains, applied to $1'' \times 8''$ Western Red Cedar tongue and groove siding, offer bright, gay accents. Soffits and the underside of the entrance are covered with $\frac{3}{4}'' \times 10''$

cedar bevel siding.

Economy, one of the requirements of this convenient, efficient nursing home, was achieved by a shortened construction period and use of readily available, easy-to-use materials. Results were evident in a lower per-bed cost, and in the fact that owners received patients sooner, and began to receive a return on their investment in a shorter period of time. Similar structures have been built for nursing care and are operating in Texas, Utah, California, Oregon and Washington.

This is one of many uses of practical, dependable West Coast Lumber, employed to meet specific modern design objectives. You have a local source of supply—ask your lumber dealer about sizes, grades of versatile West Coast Lumber.

Buildings for Business... I2 full color pages of design ideas.

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EASY-ON-THE-BUDGET BEAUTYREST DORM LOUNGE

Only with the Simmons Dorm Lounge will students enjoy such homelike, one-room living at such a modest cost. Only Simmons can give students the sitting and sleeping comfort of Beautyrest®. And as always, you benefit from the economy made possible only with long-lasting Simmons construction.

Special patented steel frame construction permits easy rolling of the Beautyrest Dorm Lounge—pull it out for sleeping...out even further for convenient bedmaking. No floor scuffing—legs lift off floor as you move bed. Durable No-Sag springs support famous Beautyrest mattress—guaranteed for ten years of day and night sitting and sleeping service. Bedding box attaches to steel frame. Entire unit may be anchored to wall to qualify as a built-in.



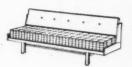


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Simmons offers a variety of sofa-bed styles—for every room requirement.





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NOW CONTROLLED BY PRC TOPLITE

PRC TOPLITE OFFERS YEAR 'ROUND THERMAL COMFORT. The heat and glare of hot summer sunlight is rejected by this roof panel of prismatic, hollow, evacuated glass blocks. North light and low winter sunlight is accepted and transmitted to provide visual comfort as a finely diffused light without apparent shadow.

Controlled sunlight is possible in all kinds of structure, such as, school, church, commercial, office, and many other buildings.



For complete technical and distributor information on PRC Toplite, please direct your inquiry to Products Research Company, Toplite Division, 2919 Empire Avenue, Burbank, California.



PRODUCTS RESEARCH COMPANY

Distributors in all principal cities



Designed for Architects • Engineers • Contractors

Whatever the architectural specifications, the slimtrim distinctive design of Stripline extruded aluminum slot-type diffusers blends in perfectly with the general decor. Stripline with separate plaster frames and removable cores eliminates screwholes, leaves the decorative surface unmarred.

Stripline is INCONSPICUOUS... PRACTICAL, can be located anywhere to suit the interior designer's preference...in walls...ceilings...coves...moulds... window sills. Stripline is supplied as a continuous decorative unit, or in sections, to meet any requirements of interior treatment or airflow.

Unlike side wall grilles and air discharge slots, Stripline diffusers incorporate the exclusive Agitair diffusing vanes. These built-in diffusing vanes produce extremely high turbulence and aspiration... achieve rapid temperature equalization... insure the distribution of tempered air unvaried over a predetermined area without any noticeable air motion.

In the design of Stripline extrusions, top priority was given to solving the contractors installation problems. These units are now made with removable cores and separate plaster frames for surface or flush installations. An integral part of each diffusing core is the unique coil spring-lock which further facilitates the installation of Stripline when used as a continuous unit or where sections are required. This spring-lock feature locks the unit firmly in place, and eliminates the use of screwholes and screws.

For more information write for technical catalog ES-105

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Structurally efficient!

EGSCO® insulated metal wall panels in Colorgard are architecturally effective for all building types

Whether the building design is industrial, institutional or commercial, the EGSCO system of interlocking metal wall panels offers simple, lów cost and fast erection, ample insulation, pleasing wall configuration and built-in contemporary color finish.

For most modern buildings the extreme panel lengths available eliminate unsightly horizontal panel laps. Fasteners are exposed to neither view nor weather. This, coupled with factory caulking of vertical joints, eliminates any weak point of entry for weather corrosion.

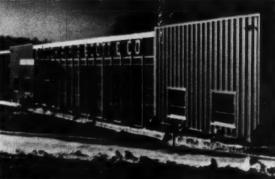
The shimmering beauty of Colorgard is protected by Peelcote, a strippable polyethylene skin, until erection is complete.

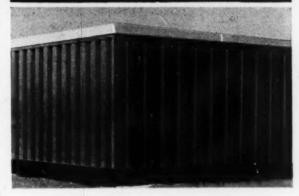
EGSCO engineers provide the architect and engineer with structural standards to reduce drawing board time. Specify EGSCO for a sure bet. For complete information see Sweet's File 3a/Sm or write for Bulletin 61W.

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Manufacturers of EGSCO® Metal Wall Products
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(top) EGSCO insulated wall panels with Colorgard in tan and gold were erected on this recently completed Williamsport, Pa., plant of The M. W. Kellogg Company, where the Power Piping Division is located, including engineering, research and field erection and the manufacture of power piping systems. Engineer and architect is Lester B. Knight and Associates, Inc., Chicago.

(middle) This is the new, modern Pittsburgh office of Carson, Pirie, Scott & Co., nationally known wholesale distributors of floor coverings. The architecture is enhanced by EGSCO Shadowall panels in Colorgard Gold. The architect is J. Kenneth Myers; the contracting engineers are Mellon-Stuart Co., both of Pittsburgh.

(lower) A close-up view of a curtainwall of EGSCO Contourwall in Colorgard Green. The panels form the colorful insulated metal wall for a penthouse on the roof of a modern factory-type building. **GLYNN·JOHNSON**



*overhead means out-of-the-way... no stumbling hazards - no interference with cleaning



▲GJ 100 concealed surface type (non-handed) (handed) for single and double acting doors. The finest in appearance and long, trouble-free wear.





4GJ ARISTOCRAT (nonhanded) for single acting doors. Ruggedly built for hard, practical usage.

GJ 80) (handed) for single acting doors. For moderate cost installations.





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silently absorbing the shock of vio-lent openings.



DOOR ... holdopen engages silently . . . holds

"Life of the building" GJ Overhead Door Holders are made of highest tensile strength alloys requiring minimum maintenance or replacements. They have built-in shock absorbers to cushion the stop and are made in various sizes for any width door.

Write for complete details and templates.

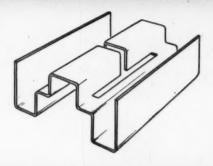
GLYNN JOHNSON CORP 4422 no. ravenswood ave. . chicago 40, ill.





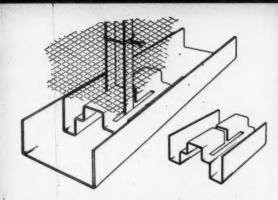


IMAGINATION IN PLASTER

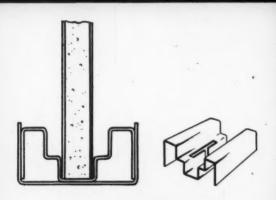


NEW LATH & PLASTER SYSTEMS

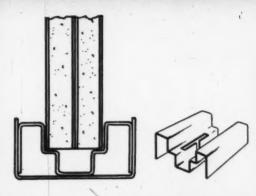
This unique, reversible, Gold Bond Floor Runner Insert can be used four different ways to produce a solid 2" partition.



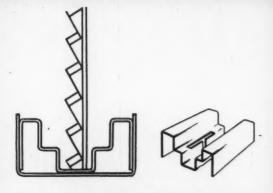
With 3/4" channel and Diamond Mesh Metal Lath wire-tied to one side of the channel.



With 1/2" Long-Length Gypsum Lath.



With 1" Gold Bond Laminated Long-Length Gypsum Lath (patented interlocking edges).



With 3/8" Rib Lath Base grouted with gypsum.

Another example of spacesaving, moneysaving, timesaving modern lath and plaster systems through imagination . . . from Gold Bond*.

NATIONAL GYPSUM COMPANY BUFFALO 13, NEW YORK



STYLE & ECONOMY ANSWERS TO YOUR FURNISHING PROBLEMS



No matter what your furnishing needs, you can fill them best from one reliable and economical source. Heywood-Wakefield now offers four new high-styled groups that will not only meet your most demanding requirements for beauty and craftsmanship, but for economy as well.

Take your choice...Riviera, Danish Modern, Esquire and Old Colony...today's best buys (today's wise buys) in hotel and motel furnishings.





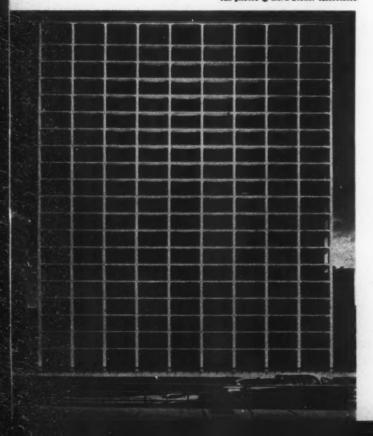
INSTITUTIONAL CHARACTER AT COMPETITIVE COST

The Hartford Building, Chicago, Illinias Skidpiore, Owings & Merrill, Architects Carl A. Morse, Owner's Construction Consultan George A. Fuller Co., General Contractor



The Hartford Building, Chicago: CONCEPT AND DESIGN

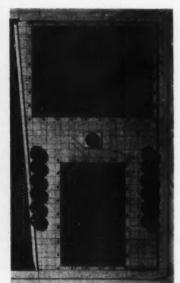
All photos C Erra Stoller Associates

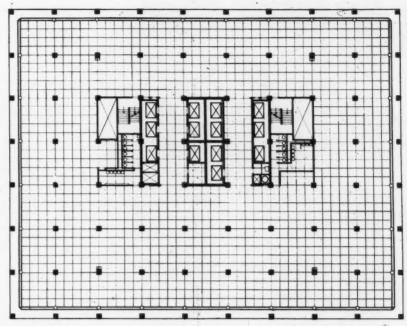


Constructed to provide rental return as well as owner occupancy, the new building in Chicago for the Hartford Insurance Group is notable for its high quality, prestige type design—built at a sq ft cost competitive with strictly speculative buildings.

For economy, a flat slab concrete frame with 22 ft square bays was chosen, and floors were set at 11 ft 6 in., providing 9 ft ceilings. The building was made almost square in plan (7 by 9 bays) to reduce peripheral wall area. The glass curtain was recessed 4 ft 6 in. to furnish sun-shading, cut the air conditioning load, and provide balconies for window cleaning. The light gray granite cladding meets the owner's request for a masonry exterior.

Esthetically, this concept offered the chance to exploit the formal characteristics of a flat slab structure—the thin, slab-edge horizontals (as opposed to the more familiar wide bands of dropped spandrel beams), and the rounded haunch connections at the column verticals. The result is a bold, yet graceful expression of structure, in keeping with "Chicago School" tradition. The columns are tapered (nearly 8 in. top to bottom), an SOM refinement that adds visual subtlety to the façades.



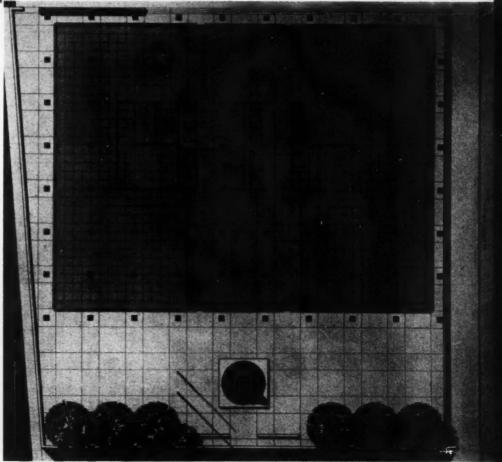


TYPICAL FLOOR

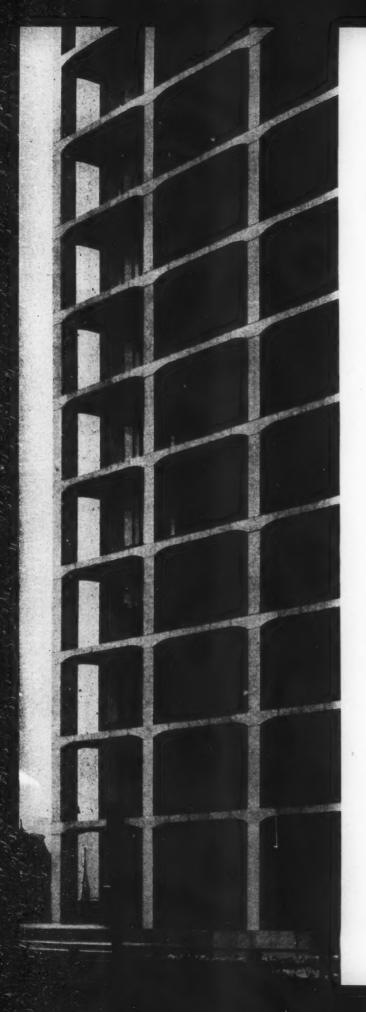
Good design at competitive cost came about through the close four-way teamwork of the owner, architects, owner's consultant, and general contractor, who made all decisions with those basic twin objectives in mind.

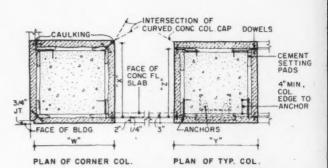
The plan—with its offcenter core—provides two types of rental space: that of a proper depth for private plus secretarial offices; and the larger, deeper space appropriate for a general office clerical or stenographic pool.

The plan above shows how a second building might be placed on the owner's property, a common plaza serving to link the two towers at ground level. No date has been set for such a development. The present plaza (now in the design stage) is not yet complete.



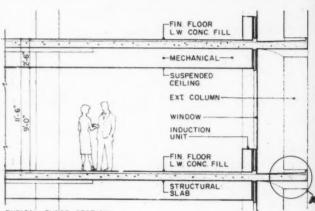
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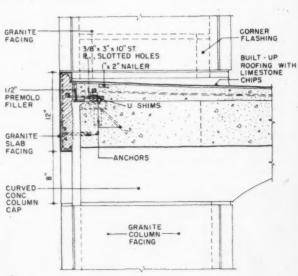


OUTSIDE COLUMN DIMENSIONS IN INCHES

FLOORS W				w	x	Y	Z
1	то	4		30¼	28	30	251/2
5	то	7		28%	261/2	281/2	24
8	то	10		271/4	25	27	221/2
11	то	13		25%	231/2	251/2	21
14	то	16		241/4	22	24	191/2
17	TO	ROOF		22¾	201/2	221/2	18



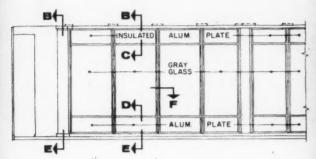
TYPICAL FLOOR SECTION

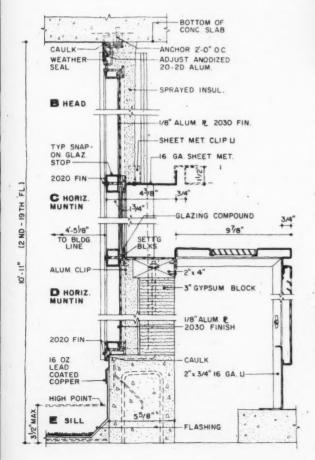


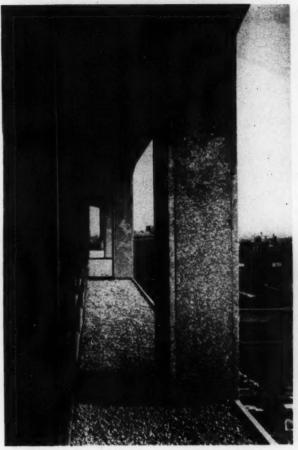
The Hartford Building, Chicago: CONSTRUCTION DETAILS

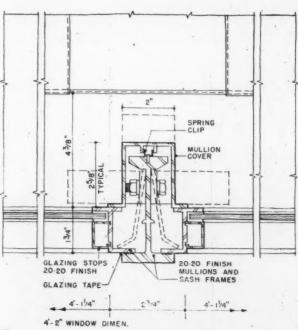
The exposed flat slab structure is sheathed with 2 in. slabs of light gray Cold Spring granite; details on left page. The table of dimensions explains how both typical and corner columns are tapered. For the corner columns, the outer exposed arris was held to a plumb line; for the typical columns, the outer face was kept in wind with a vertical plane.

Details of the aluminum and gray glass curtain wall, on this page, reveal how over-all economy was achieved by simplified sections, since all glass is sealed—except for four access windows at each level. The under-window induction units will be painted in accordance with tenants' demands; built-in vertical blinds will be provided for every floor

















ARCHITECTURAL RECORD September 1961

The Hartford Building, Chicago: INTERIORS

Above and left are shown views of the lobby (note the characteristic flat slab column haunches), a corner office, and an upper floor elevator lobby.

The dark gray slate paving for the plaza has been carried through as the lobby floor, and helps tie these spaces together. Plaza paving has been loosely set so that any given modular blocks may be removed to make way for planting boxes, pools, etc. as the plaza is land-scaped and developed

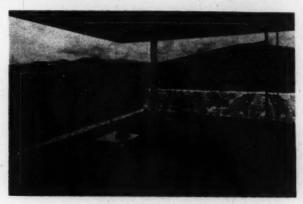


Ernst Dephle



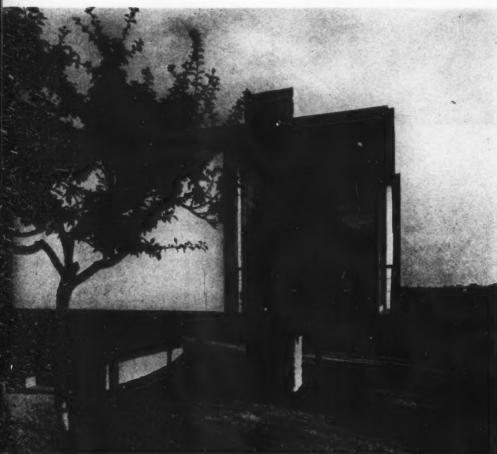
A MANY-TERRACED VILLA IN FRANCE

Country House in Alsace, France Walter Brune, Architect



ARCHITECTURAL RECORD September 1961

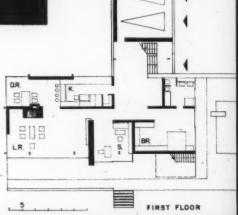




Ernst Deyhle



SECOND FLOOR



Country House in France

This neatly designed house was created to take the greatest possible advantage of its magnificent site: a hilltop overlooking the valleys and villages of the vineyard country in Alsace, France. Broad glass areas and outdoor terraces are located to make the most of the views.

The house is a large and luxurious one, with parents' bedroom and living areas (including a swimming pool and deck) on the main floor, and four bedrooms and a second sitting area for children and guests on the upper floor.

The house is steel framed, which permitted a suspension over—and non-disturbance of —the rolling landscape. Quarry stone is used to enclose the massive basement, the pool area, and some of the major rooms of the house. Other walls are made of panels of lightweight concrete. Ceilings and built-in cabinets are of natural-finished wood. Built-ins were carefully planned to minimize the need for furnishings other than seats, tables and beds. The resulting spacious rooms were planned to show off a beginning art collection to greatest advantage.

Outdoor decks and terraces are planned as supplemental outside "rooms" to the house, and each is planned with considerable privacy from others.

The major orientation of the house is to the south, with living room, library, and pool facing in this direction. All bedrooms are oriented to the east. The north façade turns mostly solid walls to the cold winter winds. A series of high windows line the west bedroom corridor.

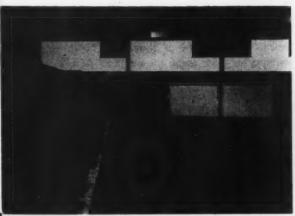






Brust Double

Country House in France





The front of this house by Dusseldorf architect Walter Brune presents a partially enclosed motor court geared to enhance both the sense of arrival and the subsequent wide vistas of the major rooms of the house (center photo).

The much-sbused corner window arrangement is put to excellent, and valid, use in most rooms to emphasize the outlook. The photo of the library at the top of the page is a good example of this.

The entrance hall (left) is spacious and underfurnished—establishing at once the quality of the house, and affording ample display areas for changing collections of art

BUILDING TYPES STUDY 298: HOTELS-MOTELS

The Architect's Role in Hotel-Motel Design

Architectural Record interviews James S. Craig, Vice President of the Hotel Corporation of America, Staff Services Planning Division

Do architects play a major role in the basic programming of the hotels and motels you build?

I would say that the firms we work with certainly do, and even many architects designing hotels or motels for the first time know more about the way a hotel should be planned than the client. The hotel or motor hotel is somewhat related to a hospital, and rather like a miniature city. The architect is controlling a complex team of specialists and so are we. Ours know all about kitchens, bars, restaurants, linen storage and employe's facilities. The common problem we share with our architects is implicit in the fact that when you have two complex planning organizations working together over a period of two or three years, nothing is static. Specialists change their roles, responsibilities overlap, and a certain amount of friction is inevitable.

How do the main responsibilities for programming divide up?

The basic program concerns the size and number of guest rooms, which are set by management using criteria based on market surveys, financial arrangements, value of the land . . . if you are building on land worth two or three million the land value often dictates the program. Size of kitchens and other public and service areas are worked out by our own planning group. The architect's job as we see it is to co-

ordinate and fit together all elements into a coherent, efficient and pleasing whole.

From your point of view does the architect have blind spots in understanding your objectives?

Sometimes. The blind spot that bothers me the most occurs after our specialists and the architect have blocked out the program and its elements and the architect starts to develop shapes. What so often gets in the way is not so much a pre-conceived idea of what the design will be, but a too early fixing of the design at a time when pretty drastic changes may still be called for. It is not pre-conceiving, it is early conceiving, and it is too bad. From then on we find ourselves trying to tailor the shape the architect has fixed, and the architect tries to tailor our ideas to fit his shape. Some architects don't freeze that early but will go away with the revised program and come back with a different solution that fits the new needs. They will make drastic changes in the way of looks and plan.

What are the areas of research and study in the hotel field which are within the architect's realm and are not being adequately explored?

The problem that is not getting the attention it deserves is that of flexibility of use. The architect

should design for flexibility now, and for whatever changes may be necessary to prevent obsolescence forty years in the future. The economics require that hotel spaces be used for more than one purpose. Morning to noon use can be different from noon to dinner use; room uses change with the season. There are different uses on weekdays and weekends. Now at last we are building in some flexibility, but we are less able to change the character of rooms as we change their size and purpose. I have always been intrigued by how easily things are changed in the theater. It seems to me that more of these techniques could be used in changing the atmosphere of a room.

Multi-purpose rooms are almost never pleasant for any of their purposes. When the dividing partitions are folded back and you have the big room which is the ballroom . . . some ballroom. It isn't right as an assembly room either, and then you put your partitions back and you have your smaller conference rooms and they are grim. You call in a decorator and the decorator doesn't know how to do it. Too many purposes . . . what note can he strike? It seems logical to attempt to solve the problem with lighting.

Lighting is a major factor in creating this versatility. The architects we are working with are interested and feel that the lighting effects specialist can fill an important need. On every job we do we have a lighting specialist.

So often hotel areas are used for exhibitions but one rarely sees an installation in a room that has the proper facilities for exhibition. The merchant puts up his panels and puts out his products and they are never properly lit. Are architects and lighting engineers studying this problem for you?

It is being done. At the Edgewater Beach we are putting in a big "ballroom" but its primary use will be for exhibition space. It will have everything it must have. There is a grid in the floor which includes electrical power, telephone and television to allow exhibit servicing without exposed cables. In addition we are bringing in extra heavy electrical power, and are providing water supply and floor drains. There are outlets for overhead spots. Other older hotels will be

forced to do this kind of remodelling.

A complete change of furniture must be often called for in multi-purpose rooms. Do the architects provide enough storage for equipment not in use?

There is seldom enough storage planned but the owner is generally to blame. He compromises on storage area in order to increase revenue producing space ending up with a relatively unworkable space.

Are there other areas in which there should be more thought and research?

More thought should be devoted to traveler needs. Bedroom arrangements need further study.

There is a tendency to leave doors off closets now. Of course there is a repetitive economy there.

We don't.

Do you feel that this is pushing cost paring too far?

Some very brilliant people give some very crazy reasons for leaving off closet doors . . . such as so people won't leave things behind.

Owners leave the closet doors off in the less expensive rooms and leave them on in the more expensive rooms. This must be on the assumption that people paying more are less likely to leave their clothes behind.

The reason for leaving them off is cost of course, but we put them on.

Your organization is clearly oriented toward good architecture. How does this happen?

Investing in a good architect is the best protection against obsolescence. We are in the food business as long as our food stays good. Our hotels will stay ahead of the competition until someone builds better ones, and we won't let that happen.

Planned for Hidden Economy: Five Hotels-Motels by W. B. Tabler



1. Buenos Aires Intercontinental

How to save hotel-motel construction costs, reduce service and maintenance expense, yet maintain comfort, suggest luxury and send the traveler on his way happy. Architect William B. Tabler knows how to save money in ways that don't show, one of the reasons he is currently engaged in the design of thirty-four hotels and motels costing an approximate total of \$247,165,000

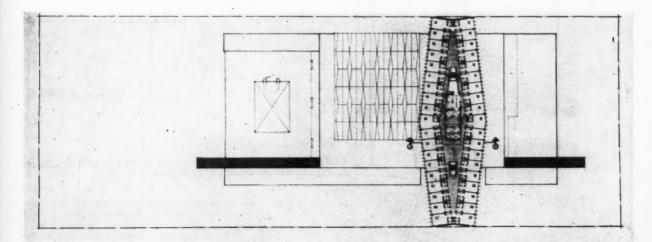
The tower of this proposed sixteen-story reinforced concrete frame hotel is shaped like a double wedge to allow a central rather than a perimeter elevator and stair core. The typical small hotel of this size has its elevator and stair element at some point on the exterior wall, thus pre-empting valuable bedroom space while increasing the amount of expensive perimeter wall. Since a hotel does not require as many elevators as an office building of an equivalent number of floors (no morning, noon and evening peak loads in hotels as in offices), and since hotels cannot utilize non-perimeter space as office buildings do, a rectangular core within a rectangular plan is impractical as it takes up more space than a small hotel requires. The wedge-shape core requires less elevator and service space to fill it and is therefore more practical. Note in plan the placement of stairs at opposite ends of the double wedge. This permits it to taper down to a width of 5 ft, which prevents each hall beyond from becoming excessively wide.

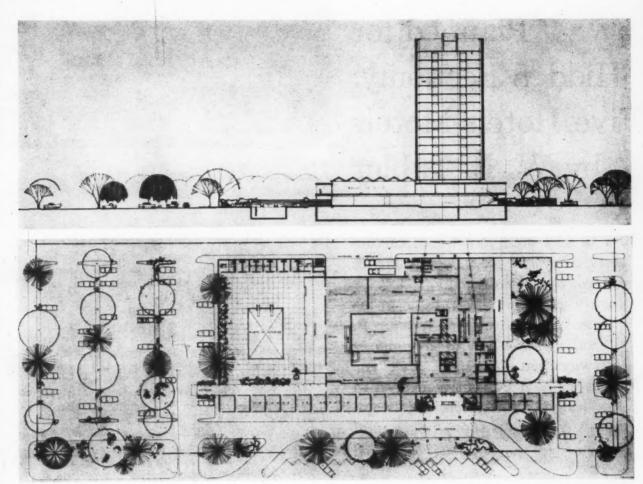
Projecting concrete fins will reduce the air conditioning loads on the tower. The hotel will provide 608 guest rooms, a swimming pool, laundry, ballroom, meeting rooms, a coffee shop, cocktail lounge, restaurant and bar and shops. Estimated cost: \$8,000,000.

ARCHITECT: William B. Tabler

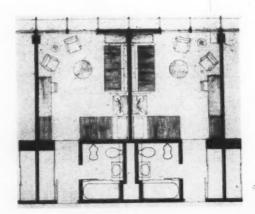
David P. Dann, Associate in Charge

LOCATION: Buenos Aires, Argentina





Spaces which require uninterrupted column-free floor area such as the ballroom and dining rooms are covered by wide spans and grouped in a low element separate from the tower. The plan is organized to position the tower and its columns conveniently over the entrance drive, lobby, and service spaces

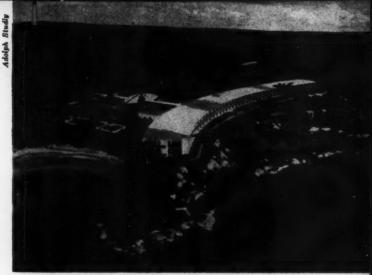


Typical double bedrooms. Second bed doubles as sofa providing a small but workable living area

2. The Carlton Beach

In this nearly finished \$3,000,000 resort hotel, construction and maintenance costs have been pared by a reduction in public and service spaces achieved by designing these areas for maximum flexibility and locating them so that they may be served by a single kitchen. The night club can be subdivided into meeting rooms by means of a new type of moveable partition with a continuous pneumatic gasket at the top of each panel which permits the partition to be located against any firm ceiling. No floor or ceiling tracks are required. The pneumatic rubber gasket is inflated by an applied air cartridge and makes a tight ceiling connection. When a different space arrangement is required, air is released from the gaskets and the panels can be easily rearranged or stored.

The guest room wing hugging the coral reef has been designed as a long low element with a double-loaded corridor two stories high on one side and three on the other. Guests walk down or up one flight only. This design provides the maximum income-producing bedroom space available to a scheme which saves money by eliminating elevators. Since this is a resort rather than a do-it-yourself motel, bellboys will carry bags down the long corridor. The corridor carpet has been specially woven with a line pattern which follows the curve as it disappears ahead.



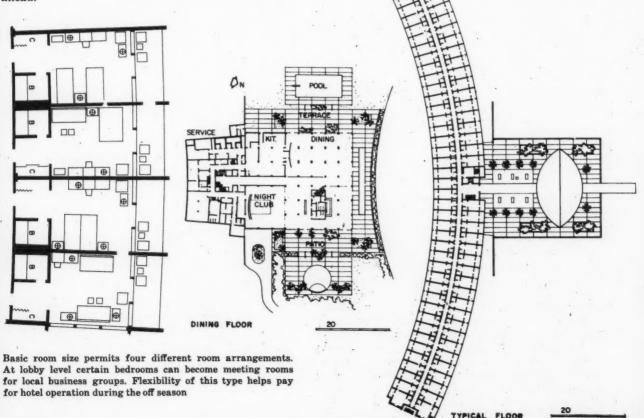
Owners and architect point out that in addition to saving elevator costs, the long low scheme adapts to the site, and brings guests physically closer to the marina on one side of the spit of land and the swimming bay on the other. It is in character with much of the local building which is low

ARCHITECT: William B. Tabler.

Raymond C. Giedraitis, Associate in Charge

OPERATOR: Hotel Corporation of America LOCATION: Southampton, Bermuda STRUCTURAL ENGINEER: Wayman C. Wing MECHANICAL ENGINEERS: Cosentini Associates LANDSCAPE ARCHITECTS: Zion & Breen LIGHTING CONSULTANT: William Richardson

CONTRACTOR: Aberthaw Construction Company OWNER: Southampton Hotel Company Limited

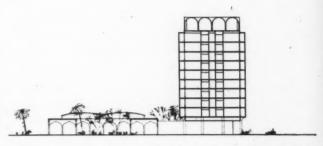


3. Karachi Intercontinental

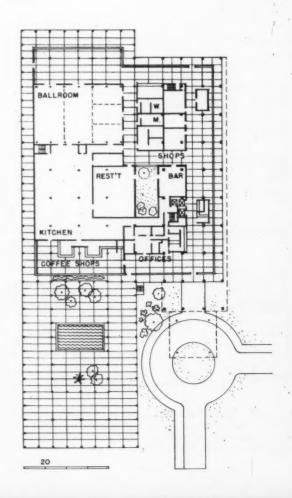
"We have been criticized for doing an American type hotel abroad," said architect Tabler in discussing this projected \$7,400,000 hotel for Pakistan. His critics contend that in a country where servants earning a pittance stand around all day to be available to perform one or two brief tasks, Tabler's efforts to cut payrolls by making fewer servants necessary are a bit needless. They ask why the hotel magnates he works for can't provide, in these overpopulated outposts at least, the same good old fashioned luxury well staffed by humans, that the finest local hotels may still provide. Tabler, who used to figure one employe per room in American hotels and who has been forced to continue to refigure that proportion downwards, because of ever rising wages. asserts that eventually in countries like Pakistan wages will reach a level which will make the hotels there as anxious to cut the payroll as they are anywhere else.

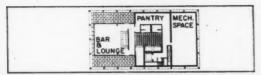
In his design for Karachi, therefore, Tabler keeps the public areas to a minimum and provides a ballroom which can be divided into small private dining rooms or meeting rooms, or easily shut down during the slow season. The plan is organized to permit ballroom, restaurant, coffee shop and bar to be served from one big kitchen.

Karachi Intercontinental will have an economical structure of a type not yet permitted by the ACI code, but allowed to be constructed abroad. The eleven-story reinforced concrete frame tower will use long narrow columns 5 in. or 6 in. wide, rather than the familiar 8 in. or 10 in. wide round or roughly square columns now required by the code. These narrow columns act as wall partitions (see thickened walls on room plan on opposite page), and fit into interior planning better than square or round ones. Used as partitions and room dividers they are an integral part of the design and cut costs of partition and wall construction. Spans are shorter, making floor slabs thinner. The long narrow vertical spandrel column combined with the horizontal line of the thin floor slab creates a thin refined exterior frame. As shown in the rendering opposite, the frame will be filled with a pre-cast concrete screen which acts as a sunshade reducing the air conditioning load, and protects the window glass from sand storms.

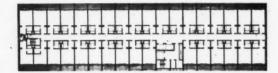


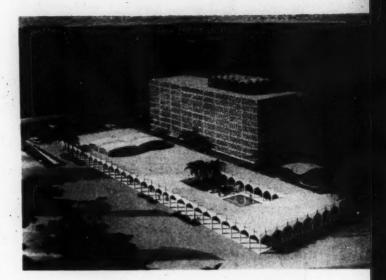
The swimming pool is surrounded by a terrace and colonnade to protect swimmers and loungers from the hot summer sun





Rooftop cocktail lounge seats eighty people, affords a view

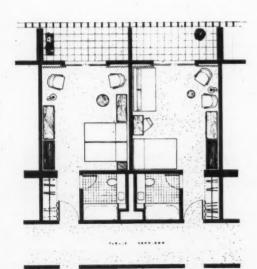




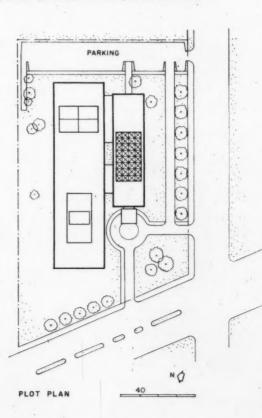
ARCHITECT: William B. Tabler, E. R. Branning and J. B. Robinson, Associates in Charge

OWNER: Pakistan Services LOCATION: Karachi, Pakistan

STRUCTURAL ENGINEER: Wayman C. Wing MECHANICAL ENGINEERS: Jaros, Baum and Bolles



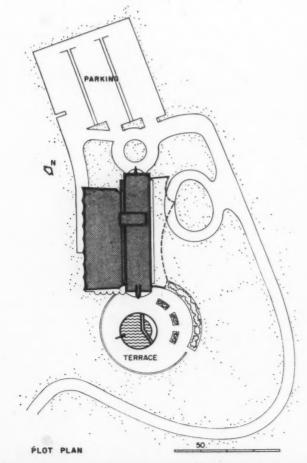
Room module accepts conventional and studio type furniture arrangements. Floors will be of terrazzo with throw rugs. Short thick walls placed in one direction on balcony and in the opposite direction between paired closets and bedrooms serve structurally as columns, reduce spans and double as partitions, an economical system



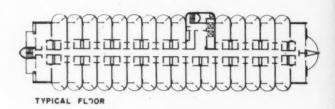


Manuel A. Ramirez





BAR COFFEE SHOP SHOP SHOP SHOP CASINO



4. El Ponce Intercontinental Hotel

ARCHITECT: William B. Tabler. J. C. Mayer and J. B. Robinson,
Associates in Charge
ASSOCIATE ARCHITECT: Henry J. Stojowski
OWNER: Ponce Heat Cornoration

OWNER: Ponce Hotel Corporation
LOCATION: Ponce, Puerto Rico

STRUCTURAL ENGINEERS: Seelye Stevenson Value & Knecht CONSULTING STRUCTURAL ENGINEER: Paul Weidlinger MECHANICAL ENGINEERS: Jaros, Baum and Bolles LANDSCAPE ARCHITECT: Allen Edwards

LANDSCAPE ARCHITECT: Allen Edwards CONTRACTOR: Metropolitan Builders

According to Tabler, this new \$3,500,000 resort hotel is currently breaking even at 40% occupancy when usually at least 70% occupancy is considered essential for a hotel to hold its own. The casino on the lobby floor helps, he admits; but so does the maintenance-reducing design of the compact, low public and service element beyond the lobby.

Every hotel man knows that bedrooms are the greatest income producers; the greater the proportion of bedroom area to public and service area, the more economical the hotel. To obtain as many bedrooms as possible at Ponce, their size was held to an absolute minimum as the bedroom and studio bedroom plans show. A more generous suite is achieved by combining the last two bedrooms on either end of both sides of the corridor as shown. Circular balconies curved toward the view of the Caribbean make the spaces seem larger to their occupants. The totem-like element on the south face of the tower is a special stair giving access to the pool.

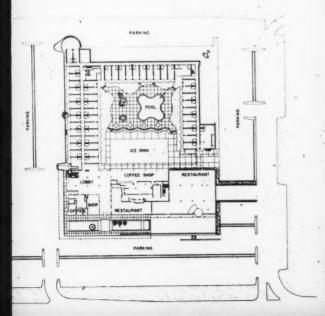
5. Marriott Motor Hotel

Robert C. Lautman



ARCHITECT: William B. Tabler.
J. B. Robinson, Associate in Charge
OWNER: Monument Properties Inc.
LOCATION: Bala Cynwyd, Pa.
STRUCTURAL ENGINEER: Wyman C. Wing
MECHANICAL ENGINEERS: Cosentini Associates
LANDSCAPE ARCHITECT: Frederick B. Stressau
CONTRACTOR: Irwin & Leighton Inc.

The client wanted this \$5,000,000 motor hotel to have 60% of the bedrooms on a two-story walkup. and favored parking which adjoins bedrooms with direct access to and from cars. Tabler believes that a bedroom tower combined with his customary low service element would have crowded the land less, been a better solution. The traveler, who looks out over his car unless he pays a higher price for a room on the interior court, can enjoy the terrace and pool, a serene oasis protected from the rush of highway traffic by the hotel's four enclosing wings. He has three different-priced restaurants to choose from and four kinds of guest rooms, all with oversize beds. There are studio rooms with one double bed and studio couch; twin bedrooms; singles with one double bed; and the studio executive room with a studio bed and a large 7-ft desk which can double as a bar with a small built-in refrigerator. (See second photo from the top right.) As shown in photo at bottom right, in all bathrooms the lavatory and toilet are ingeniously arranged to double as dressing table and seat, an amenity which takes no additional space.



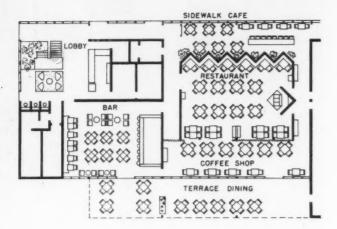








sert C. Lautman



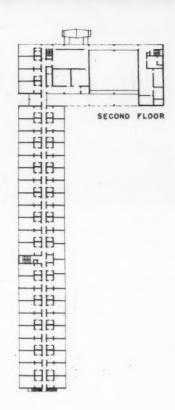
Flexible, Expandable Motor Hotel on a Budget

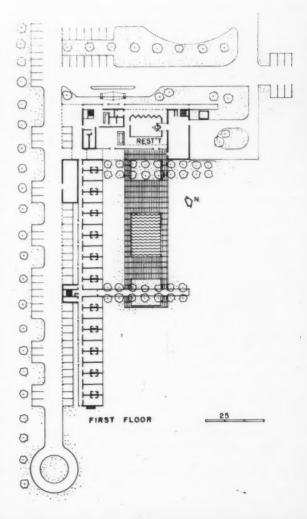
ASSOCIATED ARCHITECTS AND ENGINEERS: Curtis and Davis and Utility
Engineers, Inc.
NAME: Charterhouse Motor Hotel
OWNER: Lynn Motor Hotel Trust
LESSEE: Hotel Corporation of America
LOCATION: Lynn, Mass.
INTERIOR DESIGN: Public Spaces by Curtis and Davis,
Guest Rooms by HCA (Roland Jutras, Designer)
GENERAL CONTRACTORS: Duggan and Hiscock

The cost of this motor hotel was kept to \$15 per sq ft. A simple steel frame with wood joists and wood stud load-bearing partitions was used. Materials throughout are simple and inexpensive, the welcoming atmosphere is achieved through imaginative use of color, texture and light. A hotel man's rule of thumb is to charge a dollar in room rent for every thousand dollars of construction cost per room. The cost per room was \$8,895, which should permit management to price their rooms within reach of the average traveler. The building, opened in December 1960, has so far enjoyed a high occupancy rate. Total cost of the 70-room unit, including landscaping, parking, drives and pool, but excluding movable furniture and kitchen equipment, was \$622,661.36.

The most interesting feature of this motor hotel is the partially elevated guest room wing with parking under cover on the south side. See first floor plan at right. Most of the parked cars tuck under the overhanging second floor, are close to the guest rooms, but do not mar the view of the harbor beyond. The master plan for the site provides for an eventual 200-room development including a health club, additional dining space and some retail area, which will transform the L shape into a U. The existing kitchen has been designed to accommodate the additional dining space planned.

The Hotel Corporation of America requires that dining space be made as flexible as possible in all the hotels and motels which it operates. At this motor hotel the dining area is divided into three separate eating spaces, a cafe and a bar, to cater to diverse tastes and incomes at different times of the day. See plan above. Kitchen is adjacent on right.





Effective use of light to attract motorists passing at night



Main parking space at entrance is not overlooked by bedrooms

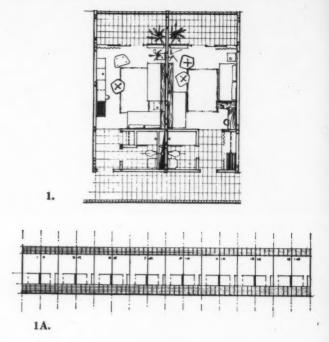
Photographs by Robert D. Harvey



Wood grilles baffle sun, create privacy

Folding slatted door on guest room closet is inexpensive, neat





Adaptable Project for British West Indies

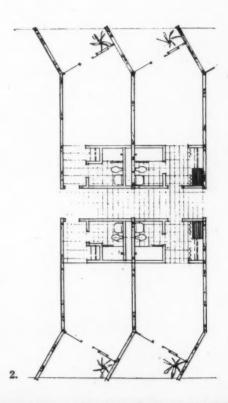
Curtis and Davis, architects of this scheme, state that this design is flexible enough to cope with most limitations imposed on it by site conditions or number of rooms required, both initially or in the future. They assert that this projected physical plant can compete on equal terms with hotel units costing a great deal more.

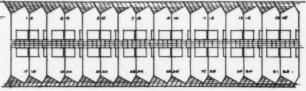
The plan is constructed around two basic modules as follows: 1. the two- or three-story module with four or six rooms arranged on the seaward side of an open corridor with balconies toward the sea, or an identical arrangement minus balconies; 2. the two- or three-story module with eight or ten rooms arranged on both sides of a central corridor running perpendicular to the sea, the rooms and balconies being angled toward the view.

These various modules are then combined together into room blocks as shown at 1A, and 2A.

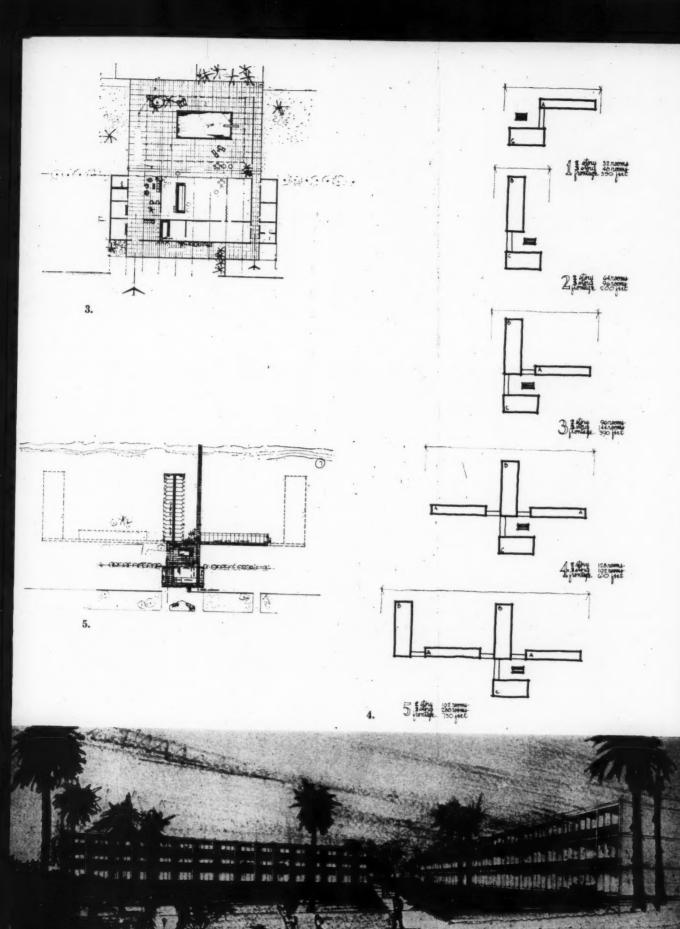
These room blocks are served by an expandable core shown in sketch 3. containing: bar, dining room, game room, kitchen, lobby, desk and office, shops, swimming pool and terraces, storage and toilets. This scheme illustrates a core for approximately 100 rooms. The core unit illustrated, together with the various room blocks, form the elements of a plan which can be arranged in many ways, depending on the site and number of rooms required. Sketch 4. shows five ways in which the elements may be arranged.

Finally sketch 5. shows the development of a plan for a 100-room unit either two or three stories high, illustrated in perspective on opposite page.





2A.



Good Site Plan Makes Parking Convenient But Not Obtrusive

ARCHITECT: Victor Gruen Associates
NAME: Charterhouse Motor Hotel
LOCATION: Anaheim. California

OWNER: Leo Freedman

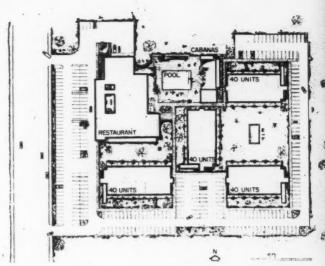
OPERATOR: Hotel Corporation of America

A first look at this ingenious plot plan reveals that parking is kept a minimum distance of approximately 50 ft from the bedrooms which face parking areas, and that the other half of the bedrooms in these double-loaded units face partially enclosed planted spaces. Only the blind ends of buildings are immediately adjacent to the parking. From these ends a baggage ramp designed for electric-powered baggage carts connects the second story guest room corridor to the parking lot. The first story corridor has direct access to parking in each unit. See photograph at bottom of opposite page.

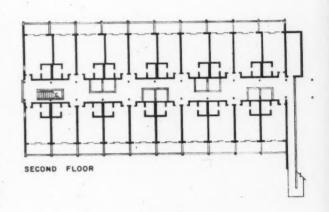
In the planning of this motor hotel, located in a citrus grove directly across the highway from Disneyland, a principle of strict separation of automobile traffic and pedestrian traffic was observed. Guests may drive to individual parking areas immediately adjacent to the two-story unit they are staying in, yet they may reach the main building on foot along pathways leading through partially enclosed spaces planted with orange trees. For the guest who prefers to ride, and for general utility uses also, electrically powered carts are provided.

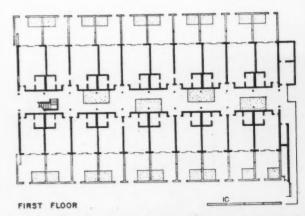
Guest suites in each of the four dispersed twostory buildings are joined by a unique corridor down the center. Above the roof level, a curved, plasticcovered canopy extends the length of the building, slightly wider than the corridor itself. It is transparent at the top and open at the sides, in clerestory fashion. Natural light and air floods the upper corridor almost as if there were no roof at all. To permit the same light and air to penetrate the lower corridor a series of railed rectangular openings in the floor of the upper corridor were introduced, alternating on both sides of the extra wide hallway. The openings admit light to the lower corridor, and directly below each opening is a planting area of similar size where trees will reach toward the light above. See photograph on opposite page, center left. Thus each guest room entrance, both lower and upper is afforded the necessary protection from wet weather while retaining an outdoor atmosphere.

Buildings are wood frame with exterior surfaces of wood, plaster, tile and masonry.



Cars screened from view by skillful arrangement of buildings

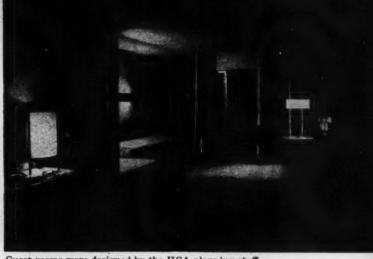




Plans for 40-unit guest room wings. Baggage ramp appears at right. Rectangles in second floor corridor admit light from skylight to the rectangular planting areas in the first floor corridor. Each guest room on the first floor has its own enclosed court, and on the second floor its own balcony



No traffic interrupts interconnecting paths

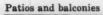


Guest rooms were designed by the HCA planning staff

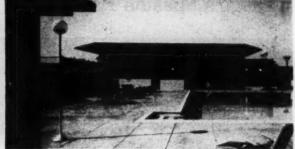




Plastic sky light illuminates and shelters corridors



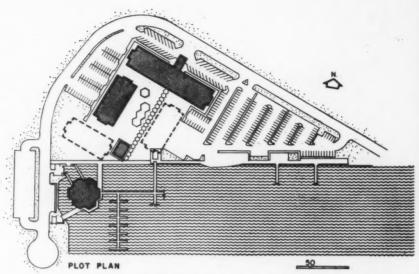




Pool establishes resort character

Blind walls abut parking. Ramps link guest room corridors to parking and are used by electric baggage carts





Plan includes two major hotel units and a restaurant surrounded by water. Dotted lines show future guest room units.

Well-Designed Hotel Conforms to a New Set of Restrictions in San Diego's Mission Bay Area

ARCHITECT: Eugene Weston Jr.

DESIGNERS: Frederick Liebhardt, Eugene Weston III

SUPERVISING ARCHITECT: Vincent Bonini

OWNER: Quivira Basin Enterprises Inc.

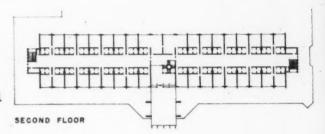
STRUCTURAL ENGINEERS: John Kariotis & Associates

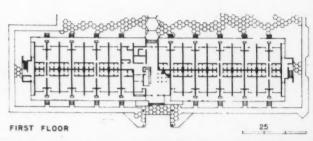
MECHANICAL & ELECTRICAL ENGINEERS: C. D. Walz & Associates

LANDSCAPE ARCHITECTS: Wimmer & Yamada

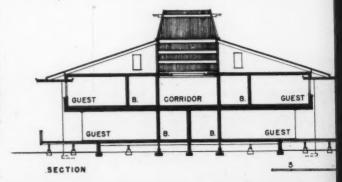
CONTRACTOR: Trepte Construction Co.

Islandia is the first hotel planned and built to conform with the official master plan for the development of the 6,400-acre Mission Bay recreation area which in ten years is expected to be the country's largest aquatic park. The city of San Diego commissioned the Community Facilities Planners (Smith, Williams and Eckbo) to prepare the plan. It recommends shake shingles for roofs instead of gravel, redwood siding, and four trim colors . . . white, charcoal, turquoise and persimmon. Signs can be no higher than 20 ft, building identification must be small. Buildings must be set back 40 ft from the nearest road and a 15-ft promenade must skirt the waterfront throughout the park area. The architects of Islandia have interpreted the spirit of these rules so well that this motor hotel may become the pace setter for the entire recreation area.





Guest rooms on first floor enter from front porches only. The second floor corridor is as wide as the two bathrooms below and has been treated as a court open to the sky through a series of slatted cupolas. With a narrower corridor each second floor guest room could have a balcony







Restaurant is raised 15 ft above water on concrete piers



Units are raised 3 ft above the ground for view



Photographs by Julius Schul



Plot plan showing entrance drive over gorge, large and small swimming pool, amusement center to the northeast, and the hotel hugging the contours of the mountain



View from mountain

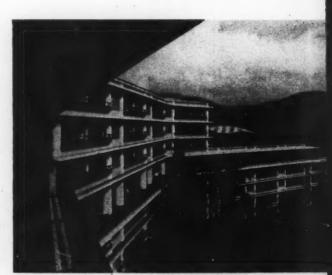
A Japanese Mountain Resort

ARCHITECT: Junzo Yoshimura NAME: Hotel Kowaki-en LOCATION: Hakone, Japan

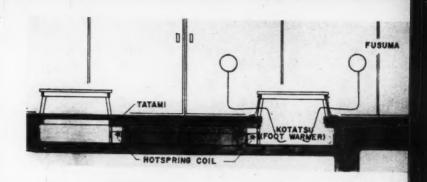
Yoshimura has described his hotel as follows: "Built on the edge of a deep gorge descending to a river, the plan and form of the hotel were developed so that the building would harmonize with the undulations of the site, and would permit the occupants to enjoy unobstructed views of the beautiful surroundings.

"The hotel is located in the heart of the beautiful National Park of Fuji-Hakone and contains 162 rooms. The structural frame is of lightweight concrete. Hot water is supplied to the bathrooms and pools from hot springs on the site. Heating is by natural steam. The climate does not require air conditioning.

"The amusement center was placed apart from the quiet hotel rooms. The pools visible from the access road as it approaches the entrance bridge across the gorge were placed there as an inviting feature to passing motorists. The design objective was to create a spacious and serene atmosphere to which people might retreat from the clamor and hustle of city life."



Wide terrace is at lounge and dining room level





Japanese dining room. Note footwarming pits with removable tatami cover



Western dining room. Japanese room beyond platform

Building Types Study: Japanese Mountain Resort

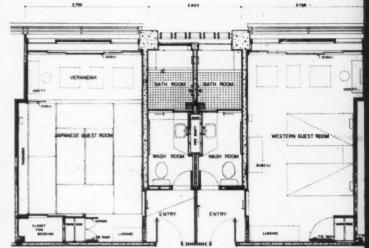




Japanese guest room. Top: bedding in closet, shoji open to balcony. Above: arranged for sleeping



Western guest room



Japanese and Western rooms alternate along corridors

Bathroom



IDLEW NEW YORK INTERNATIONAL AIRPORT 17 16 EMMINES

- 1. HOW IDLEWILD WAS PLANNED FOR THE JET AGE page 152
- 2. INTERNATIONAL ARRIVAL AND AIRLINE WING BUILDINGS page 157
- 3. TRANS WORLD AIRLINES page 162
- 4. PAN AMERICAN WORLD AIRWAYS page 165
- 5. MULTI-AIRLINE TERMINAL page 168
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- 8. EASTERN AIR LINES page 175
- 9. NORTHWEST, NORTHEAST, BRANIFF AIRLINES page 178
- 10. AIRCRAFT MAINTENANCE AND SERVICE FACILITIES page 180
- 11. AIR CARGO FACILITIES page 184
- 12. TECHNICAL HIGHLIGHTS page 186
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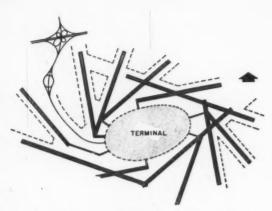


Fig. 1. Master plan of 1947, based on a system of tangential runways around central passenger area

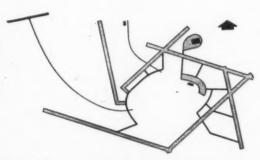


Fig. 2. State of development of tangential runway master plan taken over by Port Authority in 1947

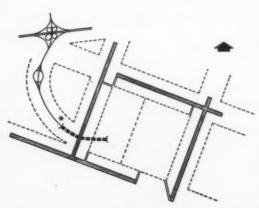


Fig. 3. New master plan based on dual parallel runways, adopted by Port Authority early in 1949

The story of Idlewild is essentially the story of how literally hundreds of architects, engineers, planners, and owners go about solving a planning problem that never holds still. Just when it would seem a solution is at hand, the problem changes. To make matters worse, the problem of planning an Idlewild is composed of a fantastic number of elements, a great scale, involved functions, and complex relationships between the various parts.

What is Idlewild? It is, of course, the major metropolitan New York airport for overseas and long-haul domestic travel. It is master planning on a grand scale. It is an encyclopedia of engineering technology. It is a lexicon of contemporary architecture. Idlewild has a robust vitality. One can easily be caught up in the feel of it; the activity, the big jets, the flags, the fountains, the exotic public address announcements; all are part of it. People are part of it: school children and sightseers; ordinary travelers and world figures; cab drivers and customs inspectors. To these, Idlewild is a vigorous city, a carnival, a world fair, as well as a world airport. Most importantly, perhaps, Idlewild is a vast storehouse of information on the philosophy and practice of architecture in our time.

HOW IDLEWILD CAME INTO BEING

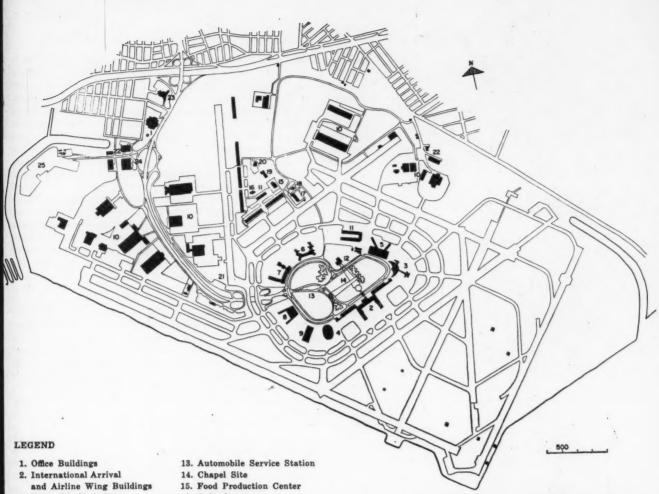
Idlewild is one of four existing airports in the New York region. Provisions for a fifth are now under study. All of these are part of the regional air travel plan. While the others provide facilities for domestic medium- and short-haul passengers and cargo, private and non-scheduled flying, Idlewild has as its basic function, or mission, the provision of facilities for overseas and long-haul domestic flights.

Construction of Idlewild was begun, by the City of New York, in 1942. After basic fill, major utilities, six runways, and a small administration building had been completed at a cost of \$60 million, the Port of New York Authority leased the airport from the city in 1947. The basic plan at this time (Fig. 1), called for a tangential runway system with all passenger facilities located at the center. Hangars were to be placed alongside the runways. Outlying areas not needed for aeronautical purposes were to be developed as leased office buildings or industrial properties. In this way, the economic feasibility of the airport would be improved. The state of development, in 1947, of this scheme is shown in figure 2. The airport began operations in 1949. Over the next few years, while master planning went ahead, additional hangars and the control tower frame were constructed.

In 1949, based on the planning studies, the tangential runway system was discarded in favor of dual runways at approximately right angles to each other and an instrument runway at about a 45 degree angle to the others. This scheme, shown in figure 3, was ultimately developed into the master plan shown across-page. Other than the runway changes, the original scheme has been adhered to except cargo was moved outside the central area leaving it for passenger use.

THE SCOPE OF IDLEWILD

The realities of the size, complexity, and great scale of Idlewild are not easy to grasp. Just how big it is can be indicated, to a degree, by some of its statistics. Fifteen miles from midtown Manhattan, it occupies a site of some 4900 acres, over five miles long. Almost 30,000 people work here and the annual payroll is over \$191 million. Fifty-six buildings are now in existence or under construction. The investment at Idlewild to date is around \$350 million. Last year, nearly 9



3. Trans World Airlines

4. Pan American World Airways

5. Multi-Airline Terminal

6. American Airlines

7. United Air Lines

8. Eastern Air Lines

9. Northwest, Northeast, Braniff.

10. Hangars and Maintenance

11. Air Cargo

12. Heating and Refrigerating

16. Animalport

17. Airmail Facility

18. Medical Building

19. Telephone Building

20. Bus Garage

21. Bank

22. Industrial Buildings

23. International Hotel

24. Admin. and Maint. Building

25. Fuel Storage Tanks

Idlewild has been planned, financed, constructed, and operated by the Port of New York Authority, John R. Wiley, Director of Aviation and John M. Kyle, Chief Engineer, since July 1, 1947 when the airport was leased from the City of New York. Terminal City was planned by the Port Authority Aviation Planning Division then under the direction of Thomas M. Sullivan, with the consultation of Wallace K. Harrison, Architect. Mr. Sullivan is now First Deputy Director of Aviation, Port of New York Authority

Terminal City From the West. Rendering by R. Corbelleti



Idlewild

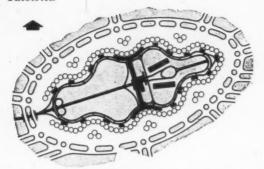


Fig. 1. Decentralized, or unit terminal, master plan as visualized by City of New York planners in 1947

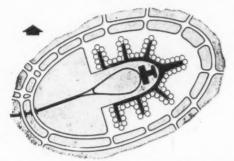


Fig. 2. Early 1948 version of centralized terminal building scheme developed by the Port Authority

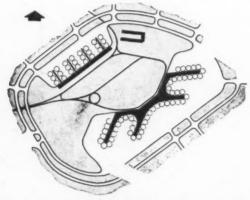


Fig. 3. Variation of the centralized scheme, with air cargo facilities added, developed by P. of N.Y.A. in 1949

million passengers with their luggage passed through, along with 275 million pounds of cargo and 88 million pounds of airmail. This traffic was handled by 23 domestic and 17 foreign airlines. Over 300 separate businesses, professional offices, or agencies are located here. They range from the airlines themselves to banks, veterinarians, and a dentist. In Terminal City, as the passenger area is called, there are 655 acres of space, with 220 acres of landscaped parks. In this area are five parking lots for 6000 cars, and the capacity is now being expanded.

Some of the buildings in Terminal City reflect the great size of the airport. For example, the International Arrival and Airline Wing Buildings are 2375 ft long and enclose 578,000 sq ft of space. There are four other airline terminal buildings in this area, two are now under construction, and another is in the preliminary design stage. Also located within the passenger area are the Heating and Refrigeration Building and the automobile service station. Eventually, three chapels will be constructed near the lagoon. Outside the area are the cargo center, hangars, and some twenty other buildings.

CRITERIA FOR TERMINAL CITY PLAN

The basic decision behind the development of Idlewild was the definition of its mission as the handling of half of the long-haul domestic traffic of the area, one-fourth of the short- and medium-haul, and all of the overseas flights. From this, it was determined that the airport must provide for 100 movements (take-offs or landings) an hour. Early in the planning, certain criteria were established. Among these were: 1. passenger convenience—direct, unimpeded circulation, 2. efficiency—a sound operational plan for airlines and airport operators, 3. economic feasibility—maximum concession development, and 4. flexible planning—versatility required for future adaptability.

The criteria led to assumptions that: 1. existing airline passenger handling and flight clearance procedures would be followed, 2. facilities should be adaptable to single airline or consolidated operations, 3. aircraft, regardless of future types, would continue to be brought close to the building to facilitate passenger loading.

In arriving at data on which to base projected needs for space and facilities, airport planners rely most heavily on: 1. Definition of mission, 2. Traffic forecasts, 3. Space uses, and 4. Potential revenue. Accurate projections are difficult in any type of building project, but the difficulties are magnified in airport planning by the great rate of change in air travel habits and in the aircraft themselves. Thus, the mission of the airport may be revised, as it has been here over the years. Traffic forecasts are hazy indicators at best. At Idlewild, for example, the early 1953 forecast predicted 5.4 million passengers annually by 1965. This was revised, late in 1953, to indicate the same number by 1960. In actuality, traffic at Idlewild exceeded this figure by a half million by 1958, and had grown to 9 million by 1960. Space



uses change with the changing years and revenue potentials are extremely difficult to tie down.

EVOLUTION OF TERMINAL CITY PLAN

From the first, important principles of the planning of Terminal City were that the facilities should be scaled to the capacity of the runways and that they should be planned for expansion as travel volume expanded. Each succeeding stage should be complete in itself and self-supporting. From the beginning, the major problem was the question of a centralized versus a decentralized scheme. Was it better to combine facilities for all airlines in one building or to build unit terminals, each self-sufficient for the needs of one or, at most, a few airlines? The earliest thinking veered toward an extremely decentralized scheme, as shown in figure 1. Soon after the Port Authority took over, this plan was discarded, since a centralized plan seemed to have advantages in space economy, versatility, potential concession income, and improved operations. Some of the centralized schemes considered are shown in figures 2 through 4.

By 1953, it became apparent that the centralized terminal scheme had serious defects related to the fast growth of the airport. A much larger building than that originally visualized would be required and regardless of its size, it would need some sort of remote or satellite buildings to provide the necessary number of gate positions. This involved special transportation for passengers and other problems. Walking distances would be prohibitive, even within the building; operations would be inefficient. About this time, a few airlines began to consider individual terminals. They felt they would like to set up their operations in their own way and develop their own concessions. In 1954, the decision to go to unit terminals resulted in the plan shown in figure 5. As it turned out, the present plan, shown in figure 6, provides a combination of unit and centralized terminals. In some terminals such as the Wing Building Arrival and Multi-Airline Buildings, a number of airlines are housed. In others, only one or two.

PLANNING THE TERMINALS

The basic attitude of the planners toward the individual buildings has been one of tolerance of the aims and desires of the airlines and architects, as long as they are compatible with the more important objectives of the master plan. Terminal locations, site relationships to other buildings, the roadways, the runways, and the like are controlled. Such details as signs, which have an effect on the over-all appearance of the airport were restricted. In many respects, individual expression was allowed both airlines and architects. The result of this attitude has been a building group which adheres generally to the master plan, but which is composed of single buildings without much relationship to each other in massing or appearance. The buildings represent an extreme diversity of opinion on what con-

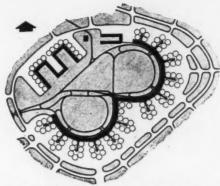


Fig. 4. Revised version of the 1953 scheme, made in an attempt to add more gate positions in the plan

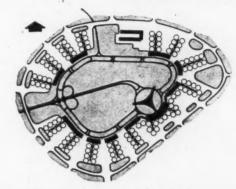


Fig. 5. Unit terminal scheme of 1954, with cargo removed to a position outside of the central area

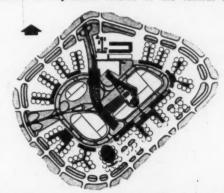
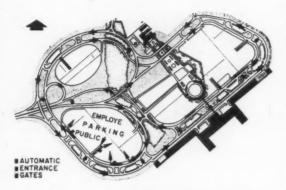


Fig. 6. Master plan of Terminal City, in all major respects, as finally conceived of and constructed





The problems of automobile traffic were solved in Terminal City by a one-way, dual lane, recirculating roadway system, with grade-separated crossings. Metered short-term parking is located across from each terminal and parking for longer periods provided for in large lots with automatic ticketing at entrances



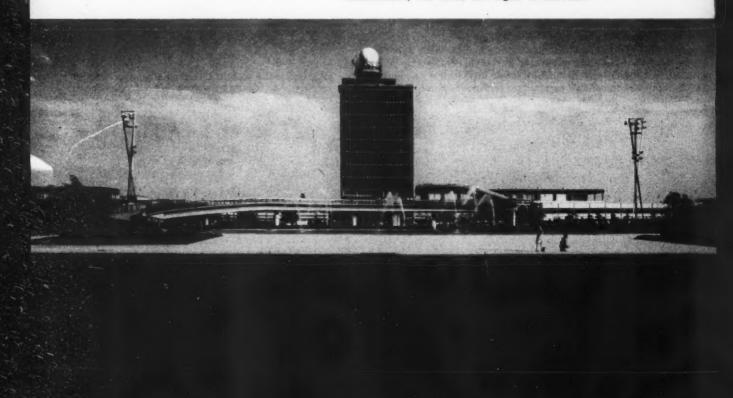
stitutes a functional air terminal. This results in one of the most interesting aspects of Idlewild, since the solutions of the problems of passenger circulation, baggage handling, noise, jet blast, concessions, and the like vary greatly.

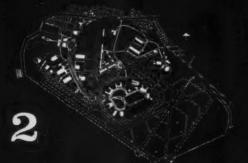
IDLEWILD-A JUDGMENT

Perhaps the most difficult part of judging what has been accomplished at Idlewild is the choice of a reasonable position for judgment. Surely, if the position should be that of the all-knowing, all-reasonable, all-talented, sitting on cloud nine, Idlewild would come off pretty badly. It is equally certain that judged from the position of the proponents of the "I have the creative training and ability—I know what is right—I'll design it and you can fit yourselves into it as best you can"—school of thought, Idlewild would be a failure. It does not, on the other hand, improve the state of architecture to take the position of the realists, saying with Dr. Pangloss, "this is the best of all possible worlds . . .", therefore we do what we must.

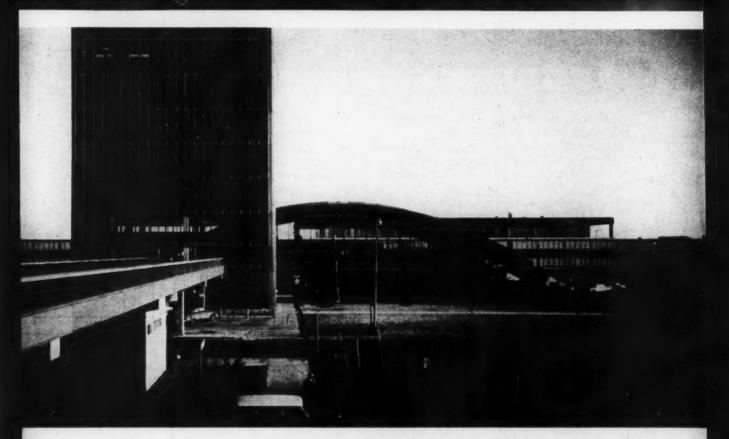
Perhaps a more helpful position to assume in order to judge Idlewild would be a sort of reasonable idealism, meaning the kind of idealism of good architects and engineers who strive to do the best work they are capable of, but who realize that there are certain realities involved in getting the job done. They realize, for example, that architecture tends to reflect its times. They realize that no matter how you work it, people have a way of getting into the act. They realize that these people-clients, airline presidents, publicnever in actuality, act as some sort of average behavior statistic might lead you to believe. Uncontrollable factors, such as the effect of weather on flying operations and the unpredictable rate of growth of air travel, would be outside the area of judgment. Only factors that can be controlled would be judged. And then only on the basis of creative planning, design, and engineering within the framework of the needs of the client and users of the buildings, and within the limitations of economics, technology, and art.

Judged by such standards, Idlewild comes off pretty well. It works efficiently, if one doesn't get too far out of step with the systems of the place. It all hangs together somehow in spite of the extreme variations in the individual buildings. All in all, Idlewild is exciting. It functions well as an airport for the most part. It is of its time. In architecture, are these not signs of success?





INTERNATIONAL ARRIVAL AND AIRLINE WING BUILDINGS



ARCHITECTS: Skidmore, Owings & Merrill

STRUCTURAL, MECHANICAL, LANDSCAPING:

Port of New York Authority

LIGHTING CONSULTANT (PARABOLA):
Richard Kelly

ACOUSTICAL CONSULTANT (PARABOLA):

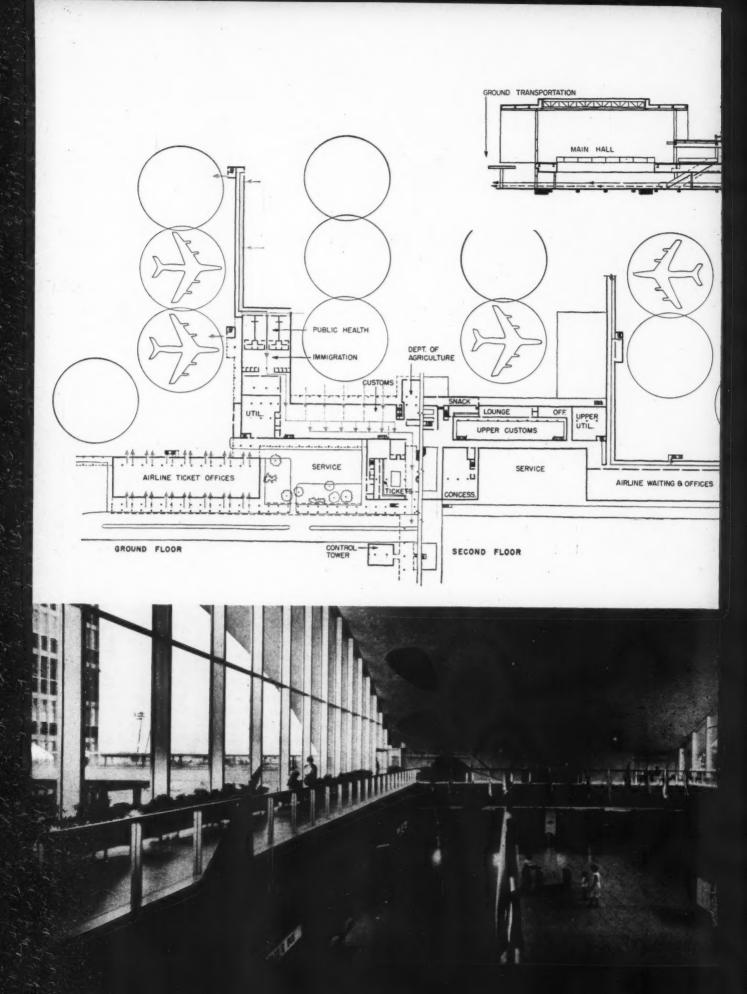
Bolt, Beranek and Newman

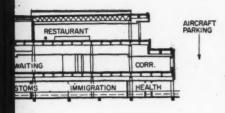
Louis Abramson

CONTRACTOR: Cauldwell-Wingate Co.

The largest and most complex building—actually a group of buildings—at Idlewild consists of the International Arrival Building, its two connected Airline Wing Buildings, and the airport control tower. This is the heart of Idlewild. From the control tower, the actions of the aircraft in the pattern above the airport and on the runways, taxiways, and aprons are controlled. In the arrival building, almost all incoming overseas flights, of domestic as well as foreign airlines, are handled. Customs, health, and immigration are located here. The Airline Wing Buildings house most of the foreign airlines at Idlewild and serve them as ticket offices, lounges, and general areas for handling their outbound passengers.

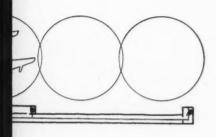
In such a large and extremely complex building as this, the problems of circulation, function, and architectural treatment are magnified. The building must serve many masters. It must serve as a focal point for the entire Idlewild composition. It must be capable of providing for large numbers of passengers and visitors, most of them unfamiliar with the building, many of them foreigners ignorant of ways in the U. S. and the language. In spite of the complexity of the requirements, the building performs its function elegantly and with a minimum of confusion.





PASSENGERS OUTBOUND INBOUND

BAGGAGE OUTBOUND INBOUND



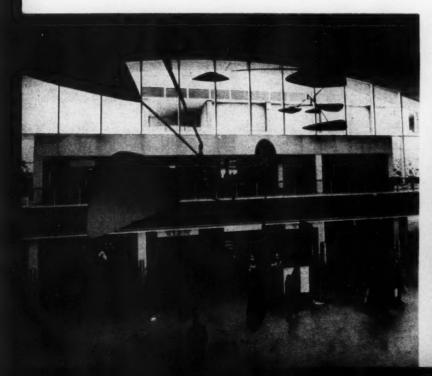
50



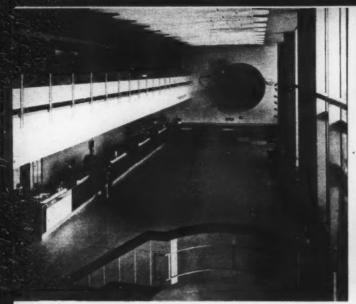
2. International Arrival and Airline Wing Buildings

The major problem in the design of the International Arrival and Airline Wing complex was providing for the large number of airlines serving a great number of people. Passenger and guest circulation had to be comfortable and efficient and allow operating personnel to go about their jobs in an orderly fashion. As actually planned, the circulation works in this way: incoming and outbound passengers are separated into circulation patterns in the Arrival Building and Airline Wing Buildings respectively. Incoming passengers enter the building within the center Ushaped area on the apron. They may then proceed directly to health, immigration, and customs offices. In the customs area passengers pick up their bags, have them inspected, and pass directly out of the area into the main hall and then may go to ground transportation. Outbound passengers are handled in the Wing Building offices. Schematic diagrams of the process are shown on the following page.

Shown here is an aerial view of the entire complex and below, from the left, two views of the great passenger hall and a view of customs showing super-market type inspection system.

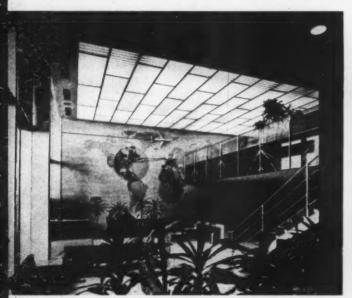






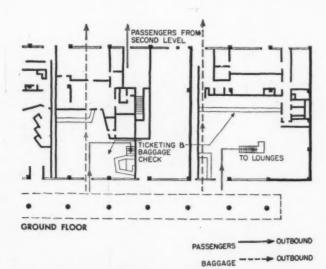


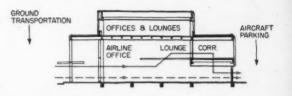
KLM-Royal Dutch Airline Office, Architects: Raymond & Rado. Left, Lobby Area, right, Third Floor Passenger Lounge



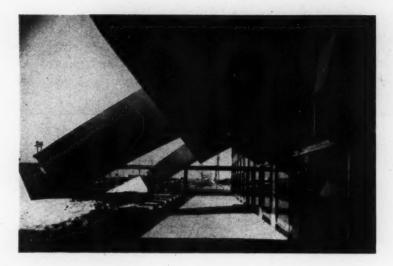


Sabena-Belgian World Airlines, Interior Designer: Michael Saphier Assoc. Left, Lobby Area, right, Ticketing and Baggage Check





Most of the foreign airlines occupying space in Airline Wing Buildings have ticket areas on ground floor, lounges on the second floor. Some also occupy third floor space. Circulation in all offices is similar to that shown in plan and section. Outbound passengers enter on ground level, are ticketed and check bags. If they have time, they may then go to upper lounges. When flight is called, passengers proceed along upper level corridors and descend to first level for boarding outbound aircraft through gate positions



2. International Arrival and Airline Wing Buildings

The exterior treatment of the arrival and wing buildings consists of simple rectangular masses with contrasting elements in the parabolic arch of the arrival portion and the vertical element of the tower. Inside the arrival section, the feeling of the exterior is repeated, but in the wing sections, the interiors are individual expressions of the airlines' own preferences. These offices are the work of many individual architects or interior designers. Each airline office stands on its own as a design; none has much in common with the others. In style, they vary from extreme simplicity to the ornate. Some indication of the treatment of interiors may be gained from illustrations on preceding page.

GENERAL

STRUCTURE

MATERIALS

SYSTEMS





ARCHITECTS: Eero Saarinen and Associates

STRUCTURAL ENGINEERS:
Ammann & Whitney

MECHANICAL ENGINEERS: Jaros, Baum and Bolles

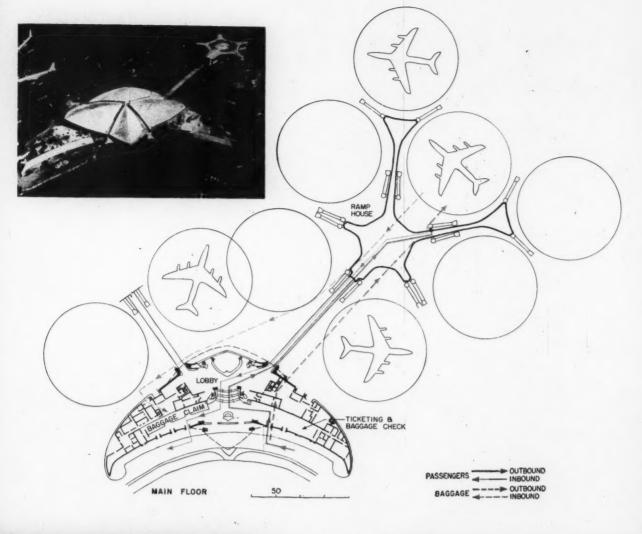
LIGHTING CONSULTANT: Stanley McCandless

ACOUSTICAL CONSULTANTS: Bolt, Beranek and Newman

CONTRACTOR: Grove, Shepherd, Wilson & Kruge, Inc.

This terminal, at first glance, would seem to conform not at all to the master plan of Idlewild. It would appear to have little in common with the other unit terminals. The building is frankly experimental in form and structure. The others at Idlewild, except for Pan American, are mostly straightforward expressions of accepted structural systems and the more usual forms of architecture. This building soars; the others at Idlewild seem, for the most part, earthbound. This building expresses something of the flight experience itself. Most of the other terminals, judging from what meets the eye, might house any of a number of functions other than that of preparation for flight.

Oddly enough, this terminal actually fits quite well into the master scheme of Idlewild. Its curves are related to the curves of the master plan. It fits its site well. As symbolic and abstract as the form is, it houses an efficient and workable airline operation. In the main, the plan differs from the others on the airport in shape, not in function. A major difference is the provision of satellite buildings serving as departure lounges and operations buildings for aircraft servicing. These are connected to the main building by covered walkways, but would perform as well or better if moving sidewalks or mobile lounges were used.

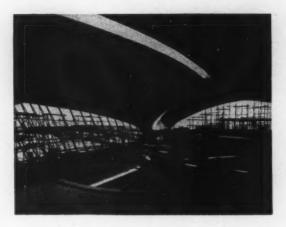


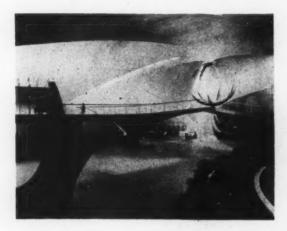




3. Trans World Airlines

Some of the qualities of the form of this terminal can be gathered from the exterior and interior illustrations shown here. As may be seen, the structure consists of four intersecting barrel vaults, separated from each other by narrow strip skylights. The vaults are varied in shape and are supported on columns which carry the loads-and shapes-down to the ground. In the exterior illustration may be seen how the wings at either side of the building curve to conform to the plan of the roadway in front. As one moves through the interior, the form of the building presents a series of subtly changing shapes and patterns. To further heighten the soaring qualities of the building, the entire interior-walls, roof, and floor-will be finished in white. Accent colors will be carmine-derived from the airline's own colors-and will be used in carpets, signs, and other smaller details. At the left in the lower interior view may be seen one of the air fountains designed to direct flow of heated or conditioned air against the ceiling for the best distribution in the irregular interior spaces





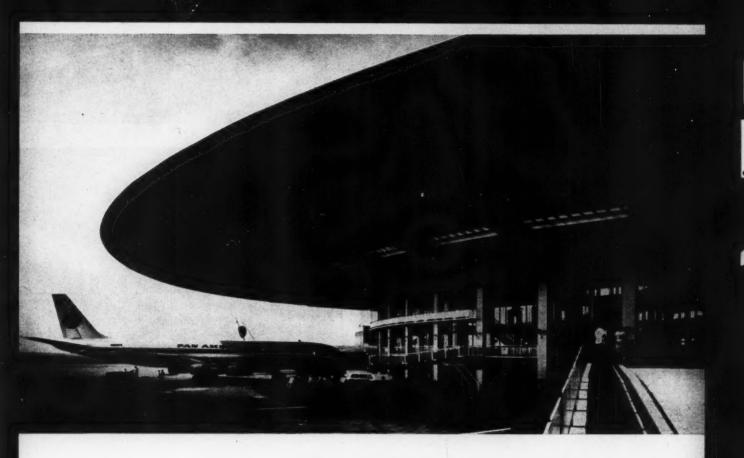
GENERAL

STRUCTURE

MATERIALS

SYSTEMS





Tippetts-Abbett-McCarthy-Stratton

ASSOCIATED ARCHITECTS: Ives, Turano and Gardner

LIGHTING CONSULTANT:

Jean Rosenthal

ACOUSTICAL CONSULTANT: Lewis Goodfriend

AERO DYNAMICS CONSULTANT: General Applied Science Laboratories

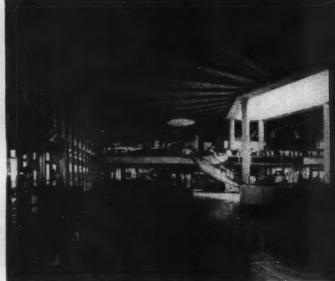
> CONTRACTOR: Turner Construction Co.

While most terminals at Idlewild and other airports rely on some system of fingers or satellite buildings for getting the aircraft into position for passenger loading, the PAA terminal breaks all of the rules. Instead of moving the passengers to the airplanes, here the airplanes are brought to the passengers. Here, the aircraft are literally nosed into the building—or at least—nosed under the building overhang. Thus, from the passenger areas inside the terminal, it is only a few steps, at most, to the aircraft.

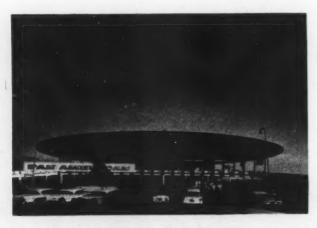
The result of this concept is a building with a striking oval shape and a great umbrella-like canopy all around, the airplanes nestling into it. For passengers and operations personnel alike, the concept leads to less steps, protection from the weather, and savings in time and energy. It is not, however, an unmixed blessing. By placing the aircraft around the terminal and nosed into it, the maximum number of aircraft that can be handled at a given time has been exactly fixed. There is no apparent way to expand the facilities within the present design concept. And while the aircraft come into the terminal under their own power, they must be towed away from the terminal upon departure, before they can start their own engines.





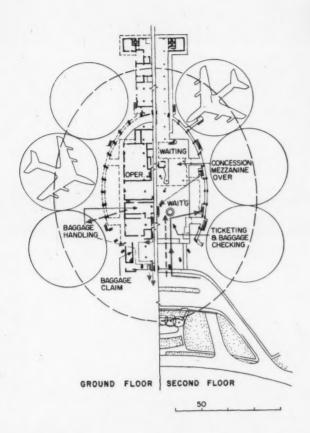


4. Pan American World Airways



In the exterior views on this page and the aerial view across-page may be seen the general configuration of this terminal, an oval umbrella of steel and concrete cable suspended over a glass-enclosed interior space. Roadways approach the building on two levels under the cover of the cantilevered roof. The upper level is used by outbound passengers, the lower by incoming. Outside the roadway may be seen a glass windscreen, placed here to protect the front entrance and roadways from wind and blowing rain. Attached to the windscreen are the Pan American sign and 12 bronze sculptures representing the signs of the zodiac, all executed by Milton Hebald. The interior views show, on the left, the main hall of the terminal from the roadway at the front, and on the right, the main hall looking toward the concessions. In the interior illustration on the left is the large air door entrance

ARCHITECTURAL RECORD September 1981





PASSENGERS OUTBOUND INBOUND BAGGAGE OUTBOUND

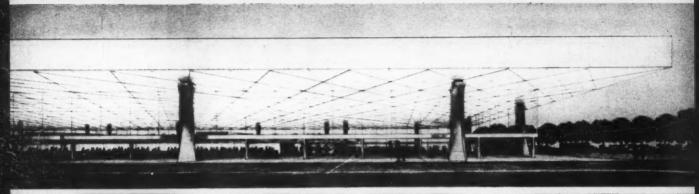
GENERAL

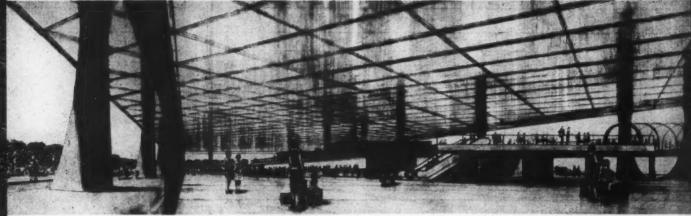
MATERIALS

STRUCTURE

SYSTEMS



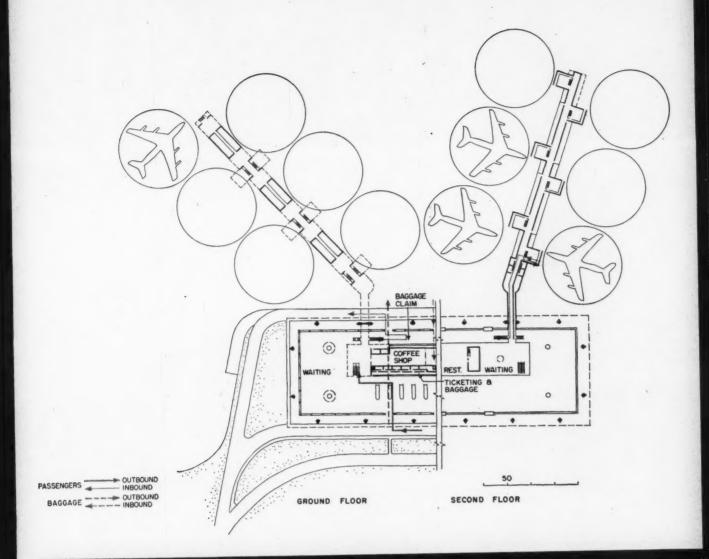




I. M. Pei & Associates

This building will be occupied by ten or so domestic airlines. In architectural concept, it is quite unlike any of the other terminals at Idlewild. A great, spacious, open glass box, the building itself appears almost to disappear, the form is so light and airy. Its plan is quite different from those of the other terminals. In this building, outbound passengers approach from ground transportation on the street side of the building, while those arriving on flights will enter autos or buses on the apron side. By dividing the circulation in this manner, some of the problems of passenger cross-traffic have been minimized. The problems of automobile traffic have been almost eliminated.

Inside the building, the outgoing passengers will proceed directly to ticket counters on the ground floor, check their baggage, then go to the second floor via escalators and out the fingers to the aircraft. Incoming passengers will enter the terminal from the fingers, go down escalators to the first level, claim their baggage, and depart on the apron side. Major concessions will be located on the second level. The building will be constructed in two phases, each phase replacing approximately half of the present temporary terminal. Construction is scheduled for completion in 1964.



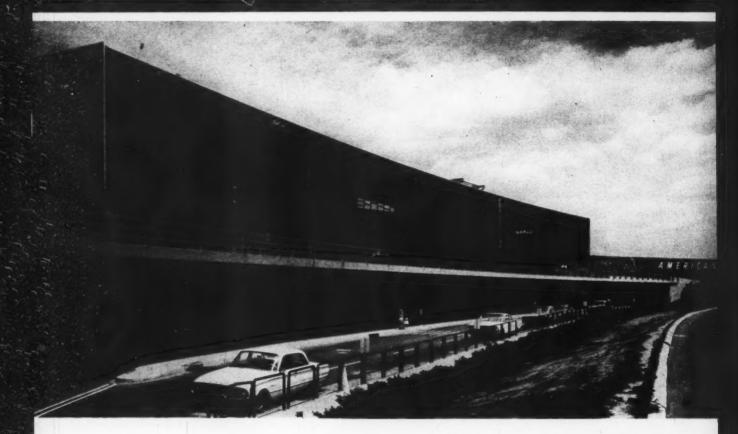
GENERAL

STRUCTURE

MATERIALS



AMERICAN AIRLINES



ARCHITECTS: Kahn and Jacobs

STRUCTURAL ENGINEERS: Severud-Elstad-Krueger Associates

MECHANICAL ENGINEERS: Jaros, Baum & Bolles

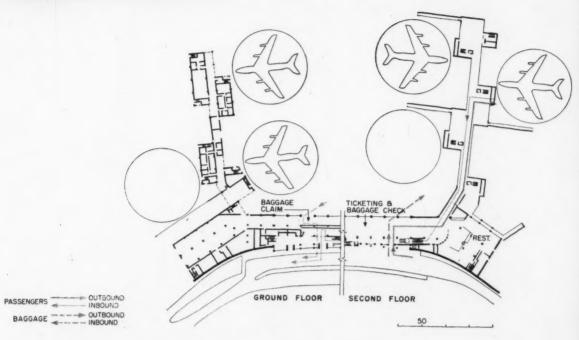
RESTAURANT CONSULTANTS: Schofield & Weed

CONTRACTOR: Turner Construction Co.

Whether one is favorably impressed by the big stained glass mural on the facade of this building, or impressed with the terminal in spite of the mural is a subject for conjecture. It is certain that the mural stands out as the big feature of the building as it is approached from the Idlewild roadway. Once inside the building, the functional aspects of the plan assert themselves.

This is a building that is easy on the passenger. Ticket counters are just inside the entrance in a perfectly obvious location, yet out of the path of general traffic. From here, it is a shorter than average walk—all on the same level—to the departure lounges and through the covered loading bridges to the aircraft. Inbound passengers gain access to their luggage after a short walk and an escalator ride to the ground floor and may depart the building under cover on this level. Baggage is handled by conveyors; flight announcements are pre-recorded and made at frequent intervals; showers and dressing rooms are available for passengers; concessions are conveniently placed. Operations offices and all of the service and housekeeping functions are removed from the passenger areas. All of this adds up to a terminal which functions well from the standpoint of both passengers and operating personnel.





GENERAL

SYSTEMS

STRUCTURE

MATERIALS



UNITED AIR LINES

ARCHITECTS: Skidmore, Owings & Merrill

STRUCTURAL ENGINEERS: Severud-Elstad-Krueger Associates

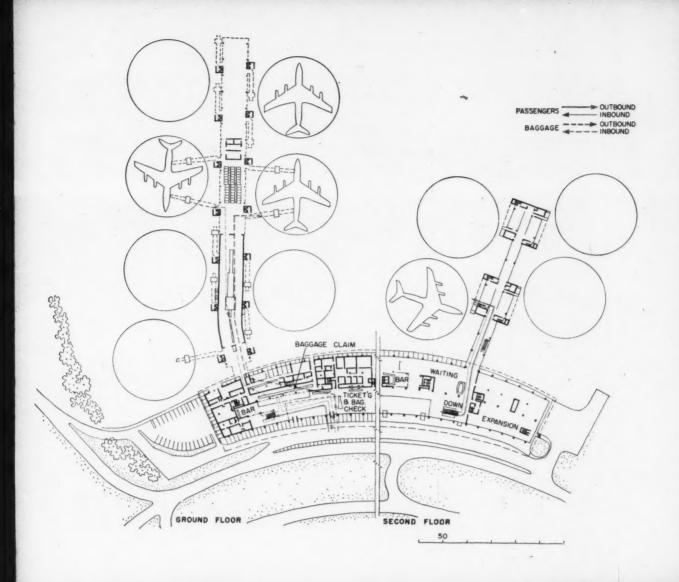
MECHANICAL ENGINEERS: Syska & Hennessey, Inc.

AIRFIELD PAVING CONSULTANTS: Moran, Proctor, Mueser & Rutledge

CONTRACTOR: Humphreys & Harding, Inc.

Better than any other, this terminal seems to fit the over-all concept at Idlewild. Having designed the International Arrival and Airline Wing Buildings and the Heating and Refrigeration building to conform with each other in style, SOM continued the development here and ultimately in the bank. Perhaps, if the other Idlewild architects had been more inclined to let these early buildings determine more of the design concepts of the other unit terminals, Idlewild might have come off better as a unified concept (though some of its excitement might have been lost).

The simple, direct, logical form of this building reflects the same attributes in the design philosophy behind it and in the plan. Lines of circulation are clearly defined without gimmicks or experimentation. Functional centers of activity such as the ticket counters are placed in logical locations. The plan and treatment of the interior are straightforward. To the passenger, all of this adds up to a lack of confusion and an easy-to-use building. To complete the picture, every current mechanical device is available for making the passenger's procedures more orderly, comfortable, and fast—escalators for changing levels, movable covered bridges for aircraft loading, automatic entrance doors, automatic baggage weighing, check-in, and handling.



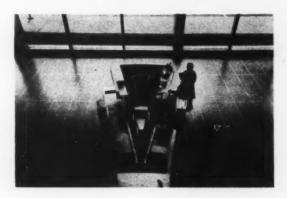




7. United Air Lines

The simple, logical treatment of the exterior of this building is indicated in the illustration above. The canopy extends over the sidewalk for the length of the building. Temporary parking for passengers is available along the entire length. This makes it possible for a passenger to depart ground transportation directly in front of one of the ticket counters located just inside the entrance doors. At the present time, Delta Airlines leases a portion of the building from United. The Delta space is located in the near end of the building as shown in the illustration. In the air view at the right, the United finger is in the foreground, the Delta in the background. Both views give some indication of the curved shape of the long building. In the air view may be seen some of United's telescopic covered passenger bridges. The interior view shows one of United's express ticketing and baggage check-in counters. Passengers place their bags on the scale-conveyor where they are automatically weighed and the overweight charges, if any, calculated. After tagging, the bags are moved by the conveyor through an opening in the counter down to the baggage room for sorting and removal to aircraft





GENERAL

MATERIALS

SYSTEMS

STRUCTURE





ARCHITECTS: Chester L. Churchill

ENGINEERS: Seelye, Stevenson, Value & Knecht

Leo A. Novick

CONTRACTOR: Gilbane Building Co.

Perhaps the most striking effect of this terminal is its size. It is said to be the largest individual airline unit terminal in the world. It is certainly larger than any other at Idlewild. Just how big it is can be gathered by the size of the main hall—almost 30,000 sq ft. This is larger than the arena of Madison Square Garden or the concourse at Grand Central Station. Just why the terminal was planned so large is somewhat obscure, the architect having died and most of the Eastern officials concerned with its design having moved on.

The size of this building and its capacity—ultimately 6 million passengers a year—pose a question that currently seems unanswerable. Admittedly, it is almost impossible to accurately predict the growth of air travel. So far at Idlewild, the growth has surpassed the most optimistic of projections. In the long run, Eastern could prove to be the only airline at Idlewild with a building large enough to grow at a rate paralleling the growth rate of air travel itself. If this should come to be, the other airlines at Idlewild may eventually find themselves spilling out of their buildings, while Eastern continues to expand within its present structure. On the other hand, it would seem apparent that this building is oversized, at least for the present.

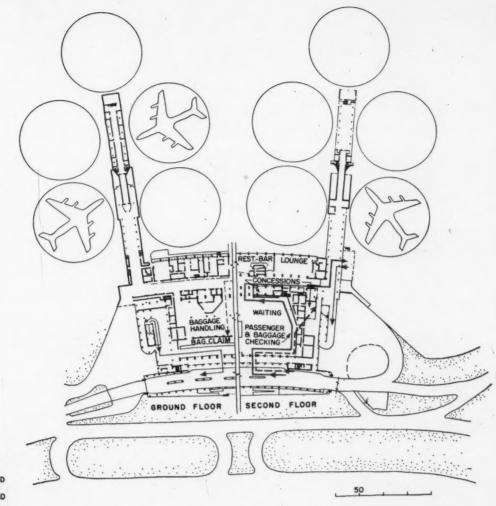


8. Eastern Air Lines



The illustrations on this page and the plan give some indication of the great size of the Eastern Air Line Terminal. At the top of the page is a view of the exterior at the front, showing the two-level driveway entering the building. The façade shown here is 420 ft long and encloses three lane driveways on each level. The upper driveway is for outbound passengers, the lower for incoming. The view of the lobby shows, on the right, the main entrance doors. Above these may be seen the automatic flight announcement board. In the center is the seat selector counter, and in the background may be seen the ticket and check-in counters. To the left are the entrances to passenger arcades and concession areas. Overhead may be seen the form of the roof imparted by the 16 reinforced concrete girders which span this space. In the view on the left is a portion of the passenger circulation ramp system. As may be seen, the ramps are placed so that traffic moves along the ramps in the direction of the gate positions or the main building

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PASSENGERS OUTBOUND INBOUND

BAGGAGE OUTBOUND

GENERAL

SYSTEMS

STRUCTURE

MATERIALS



NORTHWEST, NORTHEAST, BRANIFF



ARCHITECTS & ENGINEERS:
White and Mariani

MECHANICAL ENGINEERS: Office of Ernest F. W. Franck

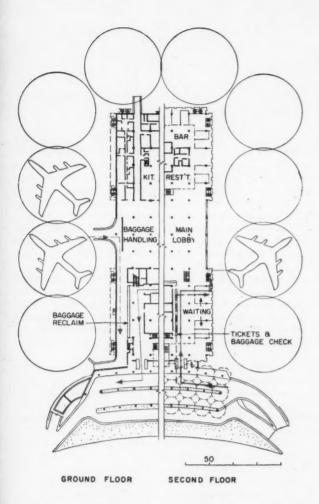
SOILS CONSULTANTS:

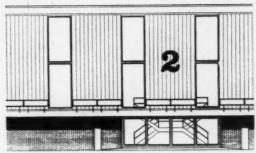
Joseph S. Ward & Associates

CONTRACTOR: George A. Fuller Company

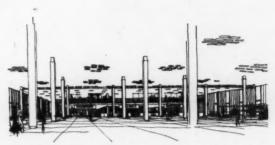
The design of this terminal, for three airlines, is based on getting the passenger and the airplane together in the shortest time and with the least number of steps. Yet, the airlines wished to keep construction costs to the minimum consistent with the functions of the terminal. To accomplish these objectives, the architects planned what is essentially a simple rectangular building with ticketing and baggage checking facilities near the front entrance, aircraft gate positions surrounding the passenger area, and the aircraft themselves parked close to the building. Because of these things, passenger circulation is simple, short, and direct.

The plan of the terminal reflects the simplicity of the over-all concepts of the program. Main passenger services are located on the main floor—each airline having its own ticketing and baggage facilities. Departure, lounges and such concessions as newsstands are also on this level for the convenience of the hurried passenger. On the mezzanine are the hold lounges, and the restaurant and other concessions. On the ground level are located most of the operations offices, employe lounge and cafeteria, and baggage handling facilities. Also on this level, but separated from the operations areas, is the passenger baggage reclaim area and the lower street level passenger exit.





Portion of Exterior at Passenger Gate Position



MAIN LOBBY: Ticket Counters From Main Lobby

PASSENGERS OUTBOUND INBOUND OUTBOUND INBOUND

GENERAL

MATERIALS

SYSTEMS

STRUCTURE



AIRCRAFT MAINTENANCE AND SERVICE FACILITIES



1. Three-hinge steel arch



2. Bowstring trusses



3. Cantilevered trusses, steel ties above roof deck



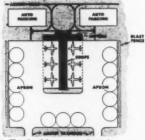
4. Cantilevered trusses, all steel roofed in



5. Cantilevered folded plate, cable supported



6. Cable-hung cantilevered truss or beam



Typical hangar plot plan

Evolution of the hangar, a nearly complete history told at Idlewild, reflects a continuing search for larger and higher, column-free space at lower cost Under central coordination of the Port of New York Authority, an international diversity of engineering talent has been brought to bear on a whole new city comprising a single transportation facility of enormous complexity. "More than any other engineering project, New York International Airport typifies the wide activities of the civil engineer: technical and city planning, construction, highway development, hydraulics, irrigation and drainage, sanitation, and structural engineering." This was part of the accolade of Glen W. Holcomb, president of the American Society of Civil Engineers, in presenting that Society's 1961 award to Idlewild as the outstanding civil engineering achievement of the year.

Achievements in other branches of engineering at Idlewild have also been publicized: the Illuminating Engineering Society's award for terminal city lighting, the Haire Airport trophy, the award of the American Institute of Steel Construction, a world-famous heating and refrigeration system, plans for a central fueling system which will provide plane-side hydrant service to each terminal

EVOLUTION OF THE HANGAR

Less spectacular than the terminal buildings, but perhaps typical of the engineering progress notable at Idlewild are the hangars. The evolution of these utility buildings in size and structural ingenuity can be observed in the examples which have been built within the past decade at this single airport.

When the Port of New York Authority in 1947 entered into a 50 year lease with the city of New York to develop Idlewild, the city had already constructed two general purpose hangars in the then-conventional steel truss design. The Port of New York Authority immediately built hangars 3, 4, and 5, much larger in scale and designed to handle airplanes of a size which had scarcely been contemplated at that time. These hangars are 300-ft steel arch span structures open on both ends of their 200 ft depth. The large span of these hangars together with their 70-ft height proved realistic in design by subsequent developments. They can accommodate aircraft of any and every size; past, present and projected future.

Even as hangars 3, 4 and 5 were completed, specific requests for hangar space were made by National Air Lines and Lockheed Air Service. National Air Lines constructed a six bay steel bowstring arch structure with each bay having a 40 ft span on the basis of the DC-6 aircraft. Lockheed desiring more flexibility, selected a double-ended cantilever steel design.

The cantilevered hangar has important advantages: columns are eliminated; flat ceiling permits easier heating; lateral expansion of the building is feasible; costs are low.

John M. Kyle, chief engineer of the Port of New York Authority describes development of the cantilever hangar as a search for economy in the construction of larger unobstructed spaces. The firm of Ammann & Whitney collaborated with PNYA engineers in development of the exposed steel cantilever system used in hangar 7 for Lockheed and a roofed-in, cantilevered truss variant used in hangars 8, 9, and 10 for United, Eastern, and American. This system was selected on the basis of studies showing that it was possible to design a structure having a central core which can be used for shop and office space and that a successful cantilever could be developed in conventional steel, re-enforced concrete or prestressed concrete. Actual competitive bidding on these forms established that, in 1954, cantilevered steel construction



was 8 per cent less expensive than concrete for the same span and load conditions and 30 to 40 per cent less over-all than a three-barrel steel arch hangar.

It was found that radiant heating, although a very fine operational feature as demonstrated in earlier hangars, raised the unit cost approximately 2.2 per cent. In the hangars built at Idlewild since 1955 most heating systems are hot water serving down-blow unit heaters at doorways with conventional radiation in interior areas.

Using cantilever construction, it is possible to use large individually motorized sliding doors deriving power from overhead rails. A system of horizontally hinged door sections with a hip offset has been developed to take care of any roof movement. For safe operation, doors must be protected by devices which immobilized the mechanism when a man-door is opened or when a moving door comes up against any object in its path. Electric heating cable is used at door channels to prevent accumulation of snow or ice.

The next advance in hangar construction occurred in 1956 when Ammann & Whitney built a TWA hangar in Kansas City featuring a long-span, folded plate, concrete, suspended roof. This same construction was used for Pan American and TWA at Idlewild in 1958. The TWA roof extends 150 ft on each side of an 80-ft wide anchor structure, and the Pan American roof extends 130 ft each way from an anchor building 100 ft wide. Both allow 50-ft tail clearance at the perimeter. These are cable-supported cantilevers with attachment of cables to the reinforced upper member of anchor walls extending above and across the central core on 30-ft centers. Construction of these hangars has been described in detail in the Architectural Record for March 1958 and elsewhere.

Hangar floors are designed for aircraft weighing 300,000 lbs having approximately 90 per cent of the loading concentrated on the main wheels. Roofs are designed for 40 lbs per sq ft vertical downward live loads and 35 lbs per sq ft for uplift loads.

Facilities furnished in a typical hangar are varied. The quantity of space assigned to each function averaged by Ammann & Whitney from eleven hangars is listed in Table 1 with figures for Idlewild's Pan American and TWA hangars added.

TABLE 1. SPACE REQUIREMENTS IN HANGAR BUILDINGS

Space	Under 100,000 SF	Average Per 100,000- 200,000 SF	Approx. 500,000 SF	Pan Am	TWA 418,000 SF
	54.0	60.0	46.5	33.0	64.0
Hangar area					
Shops	12.5	8.5	12.0	13.0	4.0
Stores	7.5	7.0	9.0	15.0	6.0
Offices	11.5	11.0	16.0	18.0	14.0
Traffic	4.5	4.0	5.5	7.0	4.0
Rest rooms	2.5	3.0	3.0	3.0	3.0
Food Units	2.5	2.0	2.5	4.0	1.0
Medical	1.0	0.5	1.0	1.0	1.0
Mechanical	2.0	2.0	2.5	3.0	2.5
Electrical	1.0	1.0	1.0	2.0	.5
Laundry	0.5	0.5	0.5	1.0	_
Misc.	0.5	0.5	0.5	-	_



Interior of steel arch hangar, 300 by 218 ft, style 1 on page opposite, a PNYA design completed in 1950



Idlewild's Hangar 7, completed in 1954 for Lockheed is world's first cantilevered hangar, style 3 opposite, a development of PNYA with Ammann & Whitney



Cantlevered trusses soar over 43-ft tail of Boeing 707 in American Airlines' Hangar 10, a Kahn and Jacobs design in style 4, opposite, completed in 1958



Amman & Whitney's prestressed folded plate, style 5, gives 50-ft clearance at TWA's Hangar 12, has less heated space overhead; note cable ties at beam ends

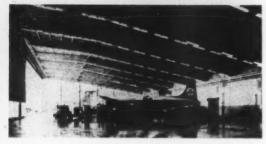


Pan American's Hangar 14 by Churchill, 1958, another cantilevered folded plate of A&W design, style 5, with motorized hipped doors on rails adding 10 ft



Air view of Hangar 14 shows how fin-like anchor walls for cables provide space for cooling towers and boiler





Hangar 17 has cable-supported cantilevered steel beams (above), a variant of style 6, a PNYA design





Air view and schematic plan of Pan American jet engine overhaul and testing facilities by Burns & Roe

Still another cantilever type construction is represented in the PNYA design for hangar 17 constructed for foreign flag airlines. This is a cantilever steel beam construction with cable suspension as illustrated in third photo from top at left.

The Boeing 707 requires a space 140 ft wide and 150 ft from front to rear with tail clearance of at least 43 ft in height. PNYA engineers designed hangar 17 with 45 ft tail clearance and aircraft stations 170 ft wide, 180 ft from front to rear including a nose pocket extending into the core area of the hangar. There are three aircraft stations on each side with provisions for additional bays to be built as needed in the future. Cable suspension enabled engineers to use cantilevered girders only 5 ft deep and 3 ft wide for the necessary span of 158 ft. The usual uncabled design of a cantilever truss would have meant a unit 23 ft deep at midpoint. Cable suspension eliminated the dead space inherent with deep trusses and was appreciably less costly. Roof framing for hangar 17 cost about \$4.50 per sq ft. A comparable through-truss cantilever roof would have cost about \$7.50 per sq ft.

Ammann & Whitney in general discussions of hangar construction have pointed out that folded plate concrete cantilevers without strand supports at the outer end are usually limited to bay depths of 130 ft with the over-all depths of the folded plate varying from 3 ft at the outer end to 12 ft at the center core. This span can be increased, but the average unit cost increases quite rapidly with the further increase in span.

The unit cost of cantilever hangar construction has been increasing considerably with the growing length of new aircraft. Accordingly, vault type hangars, variants of the original hinged steel arch, offer considerable promise for jet aircraft hangars. A multiple of vault bays, each accommodating a single large plane, would permit a more flexible and accessible arrangement of either lean-to buildings or central core for use as shop-storage-office areas. The upward sweep of the vaults needed for structural economy furnishes space capable of receiving any tail height likely to be used on new aircraft.



Not all new hangars are huge. SAS' blue aluminum shed and brick lean-to by Kahn and Jacobs is adequate

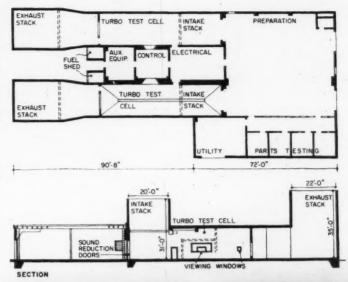
JET ENGINE OVERHAUL AND TESTING FACILITIES

A specialized complex within the hangar area is Pan American's engine overhaul building and test facility, designed by Burns & Roe. This group consists of two buildings, the larger of which is a fully equipped facility for dismantling jet engines, testing, cleaning and repairing components, and reassembling. The smaller building houses two cells for testing the completed engines.

The larger building is 332 by 162 ft arranged with disassembly shops near ramp entries on the East side. Other areas in a work flow pattern include cleaning, plating, machining, marshalling and reassembly arranged so that the final assembly area is near a ramp exit to the engine testing building. Personnel entry at the North end opens into a foyer adjacent to office space. Mechanics and shop employes by-pass offices through a corridor leading to locker areas. A second story over 62 ft of the North end of the building houses a lunch room, conference room, additional lockers and small parts storage. Boiler room on the first floor adjoins an accessory and drives test area acoustically isolated by concrete walls and acoustical surfacing.

Burns and Roe faced a more demanding problem in the engine testing facility. Although jet engines are fully assembled with mufflers, the noise of a jet engine operating in an enclosure is unendurable. Test cells are therefore of heavy concrete construction with special viewing windows through which an operator in the control room between cells can observe not only the instruments recording sound, fuel consumption, turbine rotation, and combustion temperatures, but can also see the operation.

Combustion air supply and exhaust are accomplished through stacks 20 and 22 feet square respectively. Acoustical treatment in the stacks, consisting of porous slat grating illustrated at right below, keeps engine noise within tolerable limits outside the building. Horizontal rolling steel doors seal off stacks when not in use. Access doors to the test chamber are sound proof.



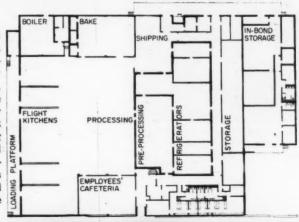






AIRCRAFT FOOD SUPPLY

An adjunct to the servicing and maintenance of aircraft is preparation of food for service to passengers aloft. TWA maintains a commissary building exclusively for this service. Another larger facility is the Brass Rail commissary located in the cargo area and providing kitchen, storage, packaging, and loading areas sufficient not only for plane services but also providing basic preparation of foods for delivery to kitchens at the many Brass Rail concessions at the airport. Kitchen facilities in the commissary building are located near truck loading platforms. Food is prepared in serving trays and placed in insulated containers for delivery by truck to aircraft. Bonded liquor storage space is isolated from the main building by separate entrances and loading platforms. Louis Abramson, A.I.A., designed the building.











AIR CARGO FACILITIES



Two-story cargo service building has warehousing and customs inspection space on first floor and office space on second floor for various cargo forwarding agencies



Clearances in one-story cargo buildings with 12.5-ft ceilings, 8 by 10-ft doors are designed for lift trucks

Five buildings totaling 307,000 sq ft on the 80-acre site of International Cargo Terminal were placed under contract in July 1955 and completed in mid-1956 at a cost of $5\frac{1}{2}$ million dollars. Two new onestory buildings will add 126,000 sq ft more general cargo space by mid-1962. These, with present auxiliaries, will total 11 buildings.

Prelude to actual architectural and engineering design, said John P. Veerling, chief of the Aviation Planning Division, PNYA, describing the cargo center to a terminal facilities planning group, was development of a basic functional diagram indicating the inter-relationships of cargo and passenger terminals, runways, taxiways, hangars and the urban area that the airport serves. From these broad relationships, the airport master plan located the air cargo terminal on the peripheral taxiway system with direct vehicular access from major highways and, via the peripheral service road, to the several unit terminals. This last condition is significant because the major portion of air cargo today is carried on passenger or combination-type aircraft, rather than specialized air freight carriers.

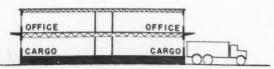
In the cargo buildings themselves, each of 27 tenants desires an area for exclusive use for parking aircraft, truck backup, and automobile parking for employes and visitors. In addition, operations at Idlewild demand federal inspection headquarters (Public Health, Immigration, Customs and the Department of Agriculture), offices for brokers and forwarders, and in-bond storage warehousing.

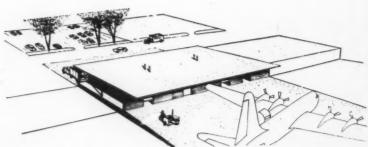
The basic site plan contains four airline cargo buildings and one cargo service building. The service building is a two-story structure with in-bond storage and warehousing on the ground floor and brokers' offices and federal inspection offices on the second floor. Each of the one-story cargo buildings is divisible in 150-ft modules, each with parking area for 30 cars and aircraft parking pavement sufficient for one aircraft of current configuration. Interior columns are limited to one row effecting a 40-ft span in 30-ft bays. The interior building clearance is 12.5 ft based on equipment clearance requirements and maximum truck heights.

A point of interest is the floor level, $3\frac{1}{2}$ ft above grade with flat ramping down to the aircraft apron. With this cross-section, cargo can be rolled from truck to building to aircraft and vice-versa with no abrupt vertical change in grade.

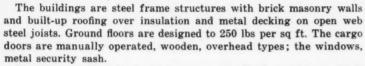
Desirability of an unloading dock for the full length of the cargo building was considered, but analysis showed that lateral movement on such a dock would be negligible inasmuch as each of the tenants is operationally a separate entity.

(Below) Floor of cargo service building is 3.5 ft above grade for truck access on both sides, while (right) floor level on plane apron side of cargo buildings slopes gently to apron grade for lift trucks









The Port of New York Authority, as landlord, provides a basic building shell with block walls between tenants, a basic toilet facility for each tenant, and general heating and lighting. All other interior work—partitions, ceiling, differential lighting and so on—is performed by the individual tenant.

The Port of New York Authority would have liked at the outset, said Mr. Veerling, to incorporate into this cargo terminal facility, mechanical devices which would permit direct loading between cargo building floor and airplane. However, neither predictability of size and floor levels of aircraft nor experience with available equipment seemed to warrant a mechanical device which would represent an annual rental of approximately \$15,000.

Pan American World Airways announced in June of this year that they plan to put into use a new palletized cargo loading system called AirPak at a cost of about \$500,000 per plane for ten all-cargo DC-7Fs.



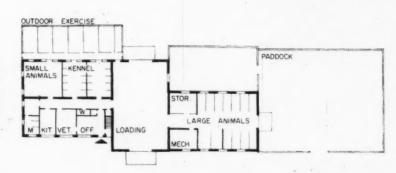
'USDA insists on plant quarantine fumigation tank for imported plants



Second floor of cargo service building provides clerical space for customs and cargo forwarding routine

ANIMAL HAVEN

A.S.P.C.A. Animalport designed by the office of Alfred Easton Poor, provides a central, enclosed, unloading area, facilities for housing, caging, feeding, and exercising small animals on one side and large animals on the other. On the second floor is an apartment—the only residential space at Idlewild—where a veterinary doctor and his wife live





AIRPORT MAIL FACILITY

A 56,000 sq ft Airport Mail Facility (Cort, Glickman, Goldsmith, and Leinhardt) processes air mail in the cargo center and provides regular U.S. Post Office service for air travelers and employes



TECHNICAL HIGHLIGHTS



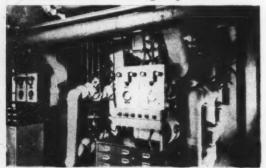
Central heating and refrigeration plant, showcase for a mechanical system



Rows of white absorption chillers with their colorcoded piping taking their reactivating energy from high temperature water



LaMont-type high temperature water boilers which supply water at 400 F to all airline terminals where it is converted to normal heating temperatures



Heat exchangers and controls supplant boilers for low temperature heating systems in terminal buildings

Size, number, and complexity, rather than innovation, characterize most of the technical accomplishments at Idlewild. Hundreds of miles of pipe and duct, interlocking control systems, untold design hours devoted to systems for heating, cooling, fueling, lighting, communications and traffic control; these have helped to create at Idlewild a veritable city whose 30,000 regular inhabitants are transported in and out of the area each day to serve the goings and comings of an even larger traveling population.

CENTRAL HEATING AND COOLING SYSTEM

Centrally located with its glass façade overlooking the fountain-decked mall leading to the control tower is the central heating and refrigeration plant. This Skidmore, Owings and Merrill design is an exhibition hall for the rows of huge white absorption chillers and darkly colored high temperature water boilers with their pastel forest of color-coded piping and clean tile surroundings. The building serves the district heating and cooling system designed by Seelye, Stevenson, Value & Knecht. This is the world's largest application of high temperature water as an energy source for both heating and absorption cooling.

The distribution piping transports hot water at 400 F and 250 psi for heating and chilled water at 45 F for cooling to each terminal building. The original plant consisted of four La Mont type boilers with a total capacity of 160 million btu per hr and nine absorption refrigerating units of 750 tons capacity each for cooling. Two additional boilers and four new absorption units will add capacity to handle the new terminals for TWA, Northeast, and the proposed multi-air-line terminal.

Central heating and cooling makes it possible for terminal buildings to eliminate boiler rooms, fuel storage, cooling towers and other space-consuming appurtenances of environment control. At each terminal a heat exchange arrangement, such as the Pan American unit shown at left below, generates low temperature hot water which is used in conventional systems for heating the individual buildings.

Chilled water at 45 F from the central system is piped directly to coils in fan rooms at convenient locations in each building and returned to the central system at 55 F.

The underground distribution system was installed in reclaimed land where the water table is about 4 to 6 ft below grade. Therefore, the six miles of hot water piping had to be installed in a pulverized natural asphalt insulation which was poured around the pipe in the open trenches and precured before back filling. Chilled water mains run adjacent to hot water mains separated by about 2 ft. These are insulated by expanded plastic.

Fuel for the boilers is stored in a 5000 barrel spherical tank above grade adjacent to the central building. Three cooling towers serve the refrigeration system. Automatic valves in the hot and chilled water lines maintain constant chilled water temperature and balance the load automatically among the absorption machines.

An interesting feature of the plant, says Charles Broder, PNYA mechanical engineer, is the valve pit directly in front of the building. Supply and return mains go into the pit through pipe trenches. Four distribution zones are fed from these mains. By installing zone controls outside the plant building, the cost of enlarging the building for this additional equipment was saved.

AIRPLANE COOLING

Most of the airlines cool parked planes by conventional refrigeration trucks which are run up to the plane. The Pan American terminal has a system of underground ducting from four 60-ton refrigeration machines, separate from the central cooling system, serving hydrant stations on the apron from which flexible duct connections are made to parked planes.

AIR DOOR AND ACOUSTICS

The Pan American terminal has the world's largest air curtain door at the inbound traffic entrance. The opening is 89 by 10 ft. Six 75-hp fans on the roof of the terminal move 600,000 cfm of recirculated air downward through a glass plenum which forms the front wall over the doorway. Bottom of the plenum is an 8-ft wide, full length adjustable louver capable of directing the air stream at a favorable outward angle according to wind pressure from the outside. The air stream velocity can be adjusted to three speeds. At its highest velocity and widest outward angle, the air stream can withstand the inward pressure of a 20 mile an hour breeze. The air curtain enters a wide floor grille which is ducted around the ends of the door for return to the fan room. The air door was designed by architects, Tippetts, Abbett-McCarthy, & Stratton and Ives, Turano and Gardner with Sulzer Bros., Inc.

The air door in combination with the 114-ft overhang of the elliptical roof of Pan American terminal under which jet planes approach loading positions created an acoustical problem. In addition to its esthetic qualities and practical utility as a shelter, it presents a large flat underside which could be a sounding board for the noise of jets.

Lewis S. Goodfriend and Associates, consulting engineers in acoustics, recommended treatment for the building. Their analysis of scale models showed the following to be of importance: (1) Acoustical material on the underside of the canopy; (2) thickness and mounting of glass walls; (3) shielding for the air curtain door; (4) noise control at loading gates. (5) Noise control for the air curtain system and for air conditioning equipment.

The architects desired a monolithic appearance for the underside of the canopy and a transparent inner structure with as little opaque wall as possible. Treatment for the underside of the canopy required a material that was incombustible, resistant to moisture, could be cast in place at reasonable cost, and was acoustically similar to foamed glass. A manufacturer (Pittsburgh Corning) had been experimenting with acoustical cellular glass. They supplied about four acres of their new product in 3-in. thick, 18 by 24-in. blocks on which a non-bridging paint presents a monolithic appearance.

The consultant's studies showed that sound control screens should be placed at each end of the air door, full height to the roof, and ex-

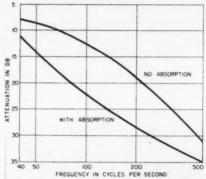




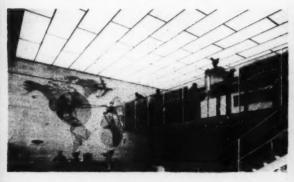
Four 60-ton coolers (left) at Pan Am terminal supply chilled air through underground ducts to apron hydrants where flexible ducts (right) connect to planes



World's largest air door at Pan American terminal



Effect of canopy absorbtion on air door attenuation



Lighting and air outlet arrangements of airline offices and lounges in International Arrival building are conventional but vary with tenant tastes. Three examples shown are, left to right, Sabena, of Belgium, El Al of Israel, and Swissair





ARCHITECTURAL RECORD September 1961



Framing for cantilevered canopy over PAA car ramp



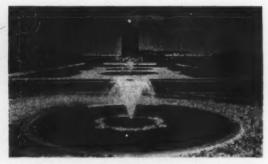
Laying steel on forms for a poured shell at TWA



Leap-frogging counterforms creep up steep TWA sides as pourers lead and finishers follow, a timing tour de force to make a monolithic shell in one pour



Transparent tunnel for passengers is also pressurized fresh air supply for satelite to keep jet fumes out



A thing of beauty is an underground pumping system

tending 54 ft toward the ramp. The architects, however, demurred, so a 10-ft screen, minimum to shield the door against cross winds, was used. This, says Lewis Goodfriend, is a serious acoustical compromise which permits sound levels to exceed design (NC-55 at the information desks vs. 65 outside) but only at brief peaks during taxiout conditions. Personnel have no difficulty with speech interference at the two information desks or at baggage check-in counters.

All other Goodfriend acoustical recommendations were accepted by architects and owners. These include selection of ½-in. plate glass resiliently mounted for wall sections; vestibules with considerable acoustic treatment at gate positions; treatment of fan systems with glass fiber duct lining, careful entry and turning arrangements, etc.

TWO CONCRETE SHELLS

The variety of structural techniques at Idlewild comprises an encyclopedia of method from the conventional to the most unusual. Contrasting examples of the unusual are the cantilevered carousel roof of the Pan American building and the poured concrete shell of TWA.

Over four acres in area, framing of the Pan American roof is like a huge elliptical wheel with 32 spokes. Spokes are prestressed steel beams centrally anchored to tension columns and supported at about mid-point by a series of piers. A stanchion mounted over each pier provides bridging for six $2\frac{1}{2}$ -in. cables attached at the hub and at the outer end of each beam, 114 ft beyond the piers. Welded wire fabric reinforces a 4 in. thick lightweight concrete slab between the radial girders to achieve a concrete canopy designed for a snow load of 40 psf. Acoustical glass block was laid on formwork hung from girders before pouring began and formed the surface of the ceiling.

The roof of the TWA terminal consists of four arched shells arranged symmetrically about a North-South axis. Each shell tapers downward on either side to buttresses at grade level. Shells meet along the axis in a junction which tapers downward tying all four together.

Resident architect for Eero Saarinen is Ralph W. Yeakel, who shepherded this complex structure through raising of concrete forms and around-the-clock pouring. He describes how the initial concept of the building shape was translated through a series of models modified by structural analysis. Architectural plans were drawn concurrently with Ammann & Whitney's structural design—an unusual trial and error approach which proved practical because of the many unknowns.

The next task confronting the architect was to interpret the design for execution by the construction contractor, Grove, Shepherd, Wilson & Kruge. The problem of forming 3200 cu yds of concrete, through continuous and simultaneous pourings, into four perfectly balanced monolithic roof sections 60 ft above ground, free of cracks, shrinkage stresses, and construction joints was monumental. A complete manual was prepared covering every detail from forming to finishing. Time, the all important factor, was pinpointed with unforgiving tolerances.

A jungle of scaffolding was built, with 1800 columns of tubular steel to support the face roof form. Work stations were numbered and, when pouring began, 1-yd buckets of concrete were coded to assure delivery to their proper area. Inspection crews at ground level observed a system of hanging plumbs under the roof. The slightest movement in formwork was radioed to a central control station so that the next bucket load of concrete could be directed to a compensating point.

Concrete mixes for shell and buttresses were varied in density and setting time according to a precise schedule, but all were required to produce an over-all uniform appearance. Haller Testing Laboratory and Master Builders Company assisted in the design of mixes.

Five reflecting pools and four fountain pools enhance the terminal plaza at Idlewild. Largest of these, Liberty Fountain, is 200 ft in diameter. It has a 600-gpm center jet 70 ft high and eight satellite jets 30 ft high, all surrounded by a 10-ft curtain of water 75 ft in diameter from 860 jets discharging 1700 gpm. Recirculating pumps vary the discharge of each unit by a cam-controlled program. Lighting in three colors is synchronized with pump operation.





PASSENGER LOADING

(Left) Truck-motorized stairways for fair-weather passengers on BOAC (Right) Self-propelled, telescoping corridors to and from lounge nuzzle up to UAL jets





(Left) PAA's canopy-protected ramps swing on radius to plane position

(Right) AAL has short, enclosed, telescoping ramp with weather seal at plane door





BAGGAGE HANDLING

(Left) Check-in counter at PAA where baggage is weighed, then belt-conveyed to lower level for loading

(Right) Supermarket counters and carts for customs inspection area





(Left) Hand delivery from trucks to sloped metal pick-up counter (Right) Belt delivery to pick-up area with automatic kicker that spaces bags on sloped counter. Visible at far end, kicker mechanism proceeds along belted track as bags are delivered



First National City Bank Building (Architects: Skidmore, Owings & Merrill)—a complete, drive-in bank with all of the facilities needed by Idlewild personnel



Carey Transportation Bus Garage (Architects: Brody, Hopf & Adler)—space for garaging and maintenance of Idlewild buses and for transportation office areas



Gulf Service Station (Architect: Edward D. Stone)—complete automobile service in a building designed to complement Idlewild terminals and master plan



Seaboard & Western Office Building (Architects: Kahn and Jacobs)—headquarters for an airline company, leased from the Port of New York Authority

There is a great variety of auxiliary buildings at Idlewild. Some are vital to the functioning of the complex as an airport. Others are here simply because space was available that was not needed for aeronautical purposes, but was perfectly adaptable for income-producing properties. Buildings of the first type contribute directly to the feasibility of Idlewild as an airport, the second type to its economic feasibility.

Among the buildings which are part of the master functional plan are the following: Central Telephone Building (Architects: Voorhees, Walker, Smith, Smith, Haines)—under construction at present time, the building will house complete equipment for handling the 7500 telephones and 2 million calls a week at Idlewild. The First National City Bank Building (Architects: Skidmore, Owings & Merrill) provides a complete banking service for the businesses and employes. International Hotel (Architect: William Tabler) has 520 rooms and complete facilities for conventions and other occasions. Several other hotels are located near the airport property. The Carey Transportation Bus Garage (Architects: Brody, Hopf & Adler) provides office space and required facilities for garaging and maintaining the buses used for transportation between the buildings of Terminal City and to and from the airport.

Several buildings at Idlewild were designed by the professional staff of the Port Authority. Among these is the Port Authority Office and Grounds Maintenance Building. This building provides space for repair and maintenance of grounds vehicles, and such shops as electrical, sheet metal, and plumbing. Catholic, Protestant, and Jewish chapels have been programmed for the airport. These are in the preliminary design stage in the offices of the architects: George J. Sole (Catholic), Edgar Tafel (Protestant) and Block and Hesse (Jewish). The centrally located Gulf Service Station (Architect: Edward D. Stone) serves the public and the operating personnel of the airport. The Medical Building (Architect: Joseph Schafran) contains complete facilities for the medical practice of three doctors. In addition, it has been designed for handling special testing and treatment required by the airlines or their passengers. Other structures which are part of the Idlewild operation include the Water Pumping Station and the Fuel Storage facilities. In addition to the services occupying separate buildings, a number of smaller facilities are located in the International Arrival Building and the individual terminals. Among these are such things as newsstands, restaurants, a dentist's office, and many others.

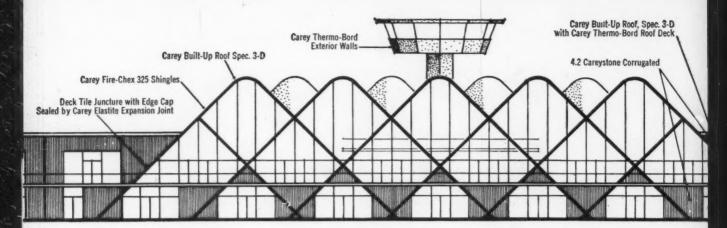
In order to make Idlewild economically feasible as an airport operation, much of the area not used for aeronautical or related purposes has been developed as leased office building and industrial properties. Among these properties are the Seaboard & Western Office Building (Architects: Kahn & Jacobs) and the Federal Office Building (Architects: Edwards & Hjorth). Several industrial plants were designed and constructed by the Port Authority. Two existing buildings are to be removed in the near future: the temporary passenger terminal which will be replaced by the new Multi-Airline Terminal and the Catholic Chapel to be torn down when the new chapel has been built.

ARCHITECTURAL RECORD articles on airport planning, published in the past two years, include: Jet Airports—Passenger Terminal Building Design Principles and A New Airport for Jets—Dulles International Airport, both in March 1960; Memphis Airport, April 1960; Four Airports, September 1960. The majority of the photographs appearing in the Idlewild story are by Joseph W. Molitor or staff photographers, Port of New York Authority; others by David Hirsch, Felix Gilbert, Joseph Knight, and Ezra Stoller



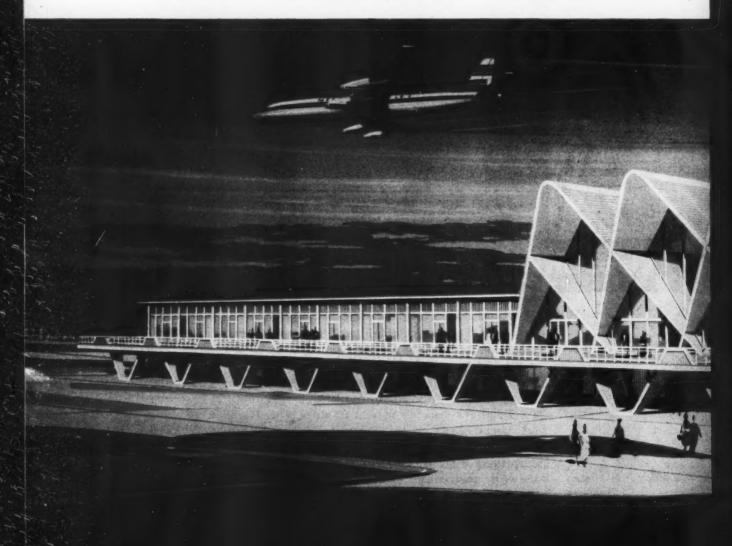
Acoustical Tectum, for walls and ceilings, offers unique textures in a variety of forms. The conference room above is typical. Near perfect acoustics are achieved using Tectum suspended ceiling panels and special wall panels painted in harmonizing shades. The walls augment the sound absorption qualities of the ceiling materials. Ceiling tiles are 24 x 60; all Tectum acoustical products are available in both standard and special sizes.

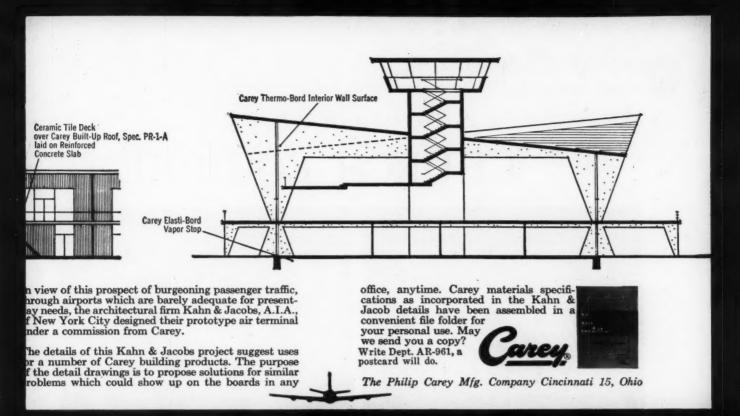
Tectum Pan-L-Art Decorative Acoustic Products include Sculptured Wall Blocks, Multi-Plane Ceilings and Geometric Panels for wall acoustics. Available in 23 decorator colors. Pan-L-Art offers distinctive textures for both walls and ceilings in unlimited design combinations. Write Tectum Corporation, 535 East Broad Street, Columbus 15, Ohio.



Kahn & Jacobs, a.i.a., design an air Observe more the imately terminal

Observers familiar with air traffic expansion predict that more than 2000 jet transports, each carrying approximately 200 passengers, will fill the airways by the end of the decade of the sixties. To these transport flights must be added a growing number of private passenger planes which even today total more than 75,000. These figures do not take into account the non-jet flights which airlines are expanding to serve an increasing number of communities.



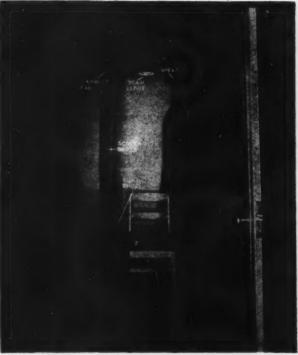




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 - -Confessionaire for the hard of hearing
 - -Exhaust fans for air control
 - -Ornate metal work on oak or birch door
 - —Sanitary screen-o-fane translucent confession screen
- · Quality at low cost

Acoustical qualities are achieved by the composite use of sheet metal and sound absorbing components. The automatic traffic control lights are operated by a pressure switch contained in the padded kneelers. Confessionaires for the hard of hearing are electrical, switch operated hand receivers. A 24" x 75½" single leaf, 2" thick door with an intake register grill that assists the exhaust fans in air control. The inside compartment dimensions are:

Middle Section—2'6" wide x 3'2" deep x 7' high Each Side—3' wide x 3'4" deep x 7' high

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Building Components

Application and Specification of Materials and Equipment

SHIELDED ROOMS FOR ELECTRONIC EQUIPMENT

Electronic equipment in hospitals, military installations and industry whose operation is disturbed by extraneous electronic waves is being shielded by panelized enclosures covered with wire screen or metal sheets. Special techniques are required to insure complete efficacy of the installation

by C. C. Borden, Vice President Ace Engineering & Machine Co. Huntington Valley, Pennsylvania

When sensitive electronic equipment is to be used in a building, the architect must take this fact into account in the design of spaces surrounding the equipment. The problem is to prevent radio frequency interference from disrupting the operation of electronic devices in such buildings as military structures, electronic manufacturing facilities and well-equipped modern hospitals.

Typical of recent installations are those by Skidmore, Owings & Merrill, N. Y., in the design of operating rooms for Bellevue, Columbia Presbyterian, and Temple University hospitals; Rogers & Butler, N. Y., for a number of electronic hospital facilities; Metcalf & Eddy, Boston, and Felheimer & Wagner, N. Y. for ballistic missile early warning stations in Greenland; and Sanders & Thomas, Philadelphia, for the FAA's National Aviation Experiment Facility at Atlantic City.

Need for Shielding

A simple example of radio frequency interference is the disturbing pattern which sometimes appears on one's TV set with the passing of an airplane, a power mower, or a trolley. Although only a minor annoyance to home entertainment, these disturbances can be critical in military electronic work or during a medical operation. Even non-military interreference is generally in violation of regulations of the FCC, and violators can be prosecuted.

Electronic interference is a twoway proposition. In most cases it is necessary to prevent external influences from disturbing critical internal work. In others it is necessary to prevent internal influences from disturbing electronic receivers in the surrounding community.

The method used is an electronically shielded enclosure built entirely around the space in question. Just as a building helps to keep temperature influences in or out, a shielded enclo-

sure keeps invisible electronic influences in or out.

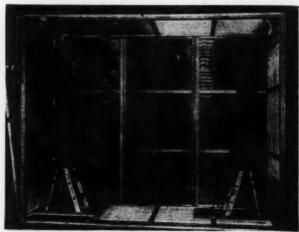
In such facilities, electronic shielding must be included in the architectural design. It is necessary to call on specialists for this work since conventional constructions will not block the passage of radio frequencies, and a knowledge of electronics is vital to meet the many variables involved. Here, ninety-nine percent perfection is no better than failure, for one electronic leak renders the entire enclosure practically worthless.

Types of Enclosures

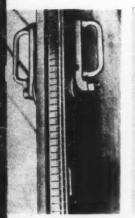
A simple shielded enclosure of today consists of a number of interchangeable modular panels which are bolted together in a special manner (often



Solid-type enclosure has modular panels covered with copper or galvanized iron sheets. The panels are fastened to channels of copper-plated or electro-galvanized steel



Cell-type enclosure has wire cloth wrapped around wooden frames to provide a double electronic shield. Enclosures can be finished with conventional materials





Left: personnel access door for a screen enclosure has two sets of spring-tempered contact fingers around periphery to maintain integrity of the shielding. Right: access panels have same construction and can be put in almost any desired location



Some enclosures require service panels with specially designed power line filters to maintain level of electronic suppression



Service panels permit the entry of air, water, gas and coaxial lines into enclosure without destroying the "seal"

with special structural elements designed to prevent electronic leakage) to form the walls, ceiling and floor of a working area. They are made as small as a bench box for production line manufacture of electronic components, and have been made as large as 100 by 50 by 18 ft high.

The panels are made of any of a number of materials depending upon the electrical parameters, the physical requirements, and the cost. Most common is the "cell type" which consists of 22-mesh copper wire cloth wrapped and fastened around wooden frames to provide a continuous double electronic shield, each shield being one inch apart from the other. Inner and outer layers are connected by being overlapped firmly around the periphery of the panel frame, Single shield enclosures of 22-mesh copper or galvanized steel wire cloth are also available for less critical appli-

Another basic panel type is the "solid" shield made of copper sheet (16 oz weight, .031 in. thick) or galvanized annealed iron sheet (24 gauge, .028 in. thick) joined together by a combination of rigid, copperplated or electro-galvanized steel channels and tensioners which assure maximum freedom from interference leaks. Although developed later than the "cell-type" enclosure, this enclosure is requested more frequently today because of its sound reduction properties, the privacy it provides, and its flexibility of use either indoors or out.

In addition to the basic shielding panels, there are a number of special panels to accommodate different types of use. Access doors, for example, can be hand-operated and no larger than a single panel, or as large as an entire side, operated automatically by an electric or hydraulic mechanism including complicated interlocks.

In most cases doors are made of the same material as the wall panels. Contact with the walls, necessary to maintain the continuous shield, is effected through two sets of phosphor bronze contact strips around the periphery of the door. These strips are usually placed at right angles to each other and positioned so as to straddle effectively the outside corner of the door jamb. The strips make contact against a copper or brass covered door buck or saddle. The door buck, in turn, must be in-

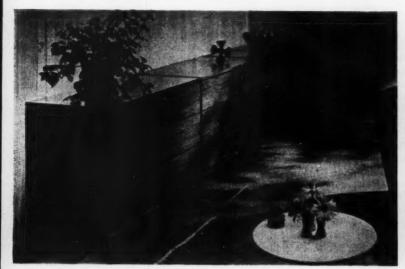
stalled so that the integrity at the joints between any two wall panels is maintained. Normally the contact strips are arranged so that one set wipes into the door buck and the other is in compression. This seal requires a wedge-type locking system capable of applying the required pressure. Shielded doors are available as complete units and are not to be confused with ordinary hollow metal doors and metal door bucks which cannot be expected to meet the electronic requirements.

Other special panels include service entries to accommodate the passage of materials and filter panels to permit entry of various services such as air, gas, electricity, water, etc. Each of these must be designed so that they permit no interference leakage when the room is in use.

Shielded enclosures are usually erected at the point of use. They can be installed in both new buildings and old. Wall, floor, and ceiling panels can be set within 2 in. of the surrounding construction. If desired, they can be anchored directly to the surrounding construction materials, regardless of type-masonry, steel, wood, composition board, etc. Type of fastening is critical, however, since improper fastening can destroy the shield. If the building is new, enclosure panels can be bolted to the rough finish interior-furring, masonry, steel, etc.

Once the enclosure is erected it can be used as is or its interior can be finished further with all conventional materials including panelling, acoustical materials and even carpeting or concrete for the floor. In the attachment of such finishes great care must be taken to avoid piercing the shield with nails, screws, staples, etc. On "cell-type" rooms, attachment can be made with short heavy gauge screws which do not penetrate both shields. A better procedure is to use closet bolts which can be soldered to the screen at the point of penetration. The best practice is to install furring strips against the shielded walls by means of closet hangers and to apply the finish material to the furring. This method produces an air space which provides additional protection against accidental damage or grounding of the shield. On the solid enclosure, furring is attached directly to the framing with machine screws at a point which does not permit penetration of the shield.

KNOLL ASSOCIATES INTRODUCE RESIDENTIAL FURNITURE





Knoll Associates' expanded collection of residential furniture includes the group of chests at left and the night table above right. The chests are of teak, placed on a chromed steel base

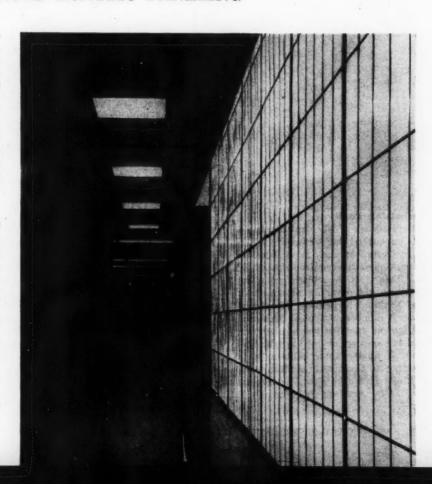
The night table has a shelf and a drawer with plastic fittings. The top is available in walnut, teak, or white plastic. Knoll Associates, Inc., 320 Park Ave., New York 22, N.Y.

FIBERGLAS REINFORCED ACRYLIC PANELING

Owens-Corning Fiberglas Corporation has introduced a series of translucent panels, made of acrylic plastic reinforced with glass fiber, under the name of "Fiberglas Daylighting Panels." The panel is of three-ply construction, a heavy center ply of Fiberglas reinforcing mat is sandwiched between the surfacing mat on each face of the panel. An acrylic resin is employed as the bonding agent, which is said to improve both weather resistance and light-diffusing qualities.

The panels are available in four colors: "Industrial Frost," with 80 per cent light transmission; white and light green, with 75 per cent light transmission; and medium green, with 60 per cent light transmission, for use in reducing direct sun, heat, or glare. Applications suggested by the manufacturer include skylights, partitions, replacements for existing sash and glazing, and equipment housings. The panel is shatterproof, and is not subject to rot, rust or corrosion. Owens-Corning Fiberglas Co., 717 Fifth Ave., New York, N.Y.

more products on page 202



Lighting Troffers

A new 44-page illustrated handbook of recessed fluorescent equipment is now available from Globe Lighting Products. The catalog describes the company's line of modular troffer units which are available with plastic lenses as well as a number of glass and metal shieldings. Details and data are provided for a wide variety of sizes. Globe Lighting Products, 1710 Flushing Ave., Brooklyn 37, N.Y.

Fan Capacities

A new 44-page illustrated catalog describing the American-Standard line of HS Fans is now obtainable. The bulletin discusses construction features of the fans and describes available drive arrangements, configurations, and types of drive. Capacity tables are also included for all 12 sizes in both single-inlet, singlewidth and double-inlet, double-width designs. Outline drawings are keyed to tabulated dimensional data to provide working layout dimensions. A typical specification is also provided. American-Standard Industrial Division, Detroit 32, Michigan*

Electrical Supports

A new 24-page catalog that illustrates basic slotted channel, fluorescent hanging systems and fittings for electrical supports is available from the Power-Strut Div. of Van Huffel Products, Inc., Warren, Ohio

Fire Protection

The National Fire Protection Association has announced the publication of four pamphlets: "Fire Doors and Windows" (70 pages, \$1.00), "Air Conditioning Systems for Other Than Residences" (26 pages, sixty cents), "Warm Air Heating and Air Conditioning Systems for Residences" (24 pages, fifty cents), and "Water Cooling Towers" (11 pages, fifty cents). National Fire Protection Association, 60 Batterymarch St., Boston 10, Mass.

Make-Up Air Systems

The Reznor Manufacturing Co. has produced an eight page introduction to the principles of designing makeup air systems, that is, methods of providing replacement air for areas where mechanical exhaust equipment is in use. The booklet also includes information on the appropriate Reznor furnaces and blowers. Reznor Manufacturing Co., Mercer, Pa.*

Cafeteria Counters

The Southern Equipment Co. has released a revised catalog of sectional cafeteria counters. Consisting of 40 pages, the catalog is divided into two sections, one listing 30 in. wide sectional units and one listing 24 in. units. All the sections manufactured are itemized, and both general and mechanical specifications are included. Front elevation drawings, dimensional drawings, and roughing-in details have been provided. Also listed are optional accessories, types of front panels available, and suggested floor plan layouts. Southern Equipment Co., 4550 Gustine Ave., St. Louis 16, Missouri*

Light Gage Steel Manual

The American Iron and Steel Institute has published a 1961 edition of the Light Gage Cold-Formed Steel Design Manual and a companion Commentary volume. This third edition of the Design Manual includes the 1960 edition of the specification, and the supplementary information, charts and tables have been considerably expanded. The Commentary is intended for both the practicing engineer and the teacher. It presents the characteristics and performance of formed steel structural members and describes the reasoning and justification of the various provisions of the Specification. Manual \$1.00, Commentary fifty cents. American Iron and Steel Institute, 150 E. 42nd St., N.Y.C. 17, N.Y.

Built-Up Roofing

A new 28-page catalog lists data and specifications of Carey Bonded Built-Up Roofs. The manual includes a Roof Selector Guide, an explanation of the Carey Bond, and general requirements for built-up roofing specifications on nailable and non-nailable decks and materials. Application information includes details on steep deck and dead level roofs, insulation, and the sealing of joints. Also included are flashing details for various typical situations, such as vent pipes, gravel steps and gutters, expansion joints and so on. The catalog is available at Carey district offices or from The Philip Carey Mfg. Co., 320 S. Wayne Ave., Cincinnati 15, Ohio*

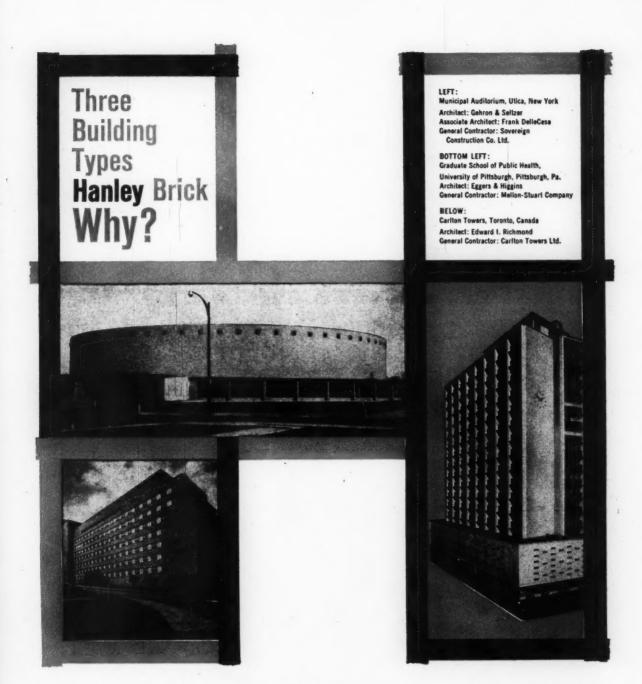
*Additional product information in Sweet's Architectural File

weet's Architectural File
more literature on page 234



Swimming Pools

The Paddock Pool Equipment Co. has announced the release of an 112-page Design Manual. It includes information on the requirements of the A.A.U. and other athletic organizations and the minimum standards of the National Swimming Pool Institute. A number of typical pools and equipment installations are shown, and 44 pages are devoted to specification. A final chapter contains data relating to the size of recirculating piping. Paddock Pool Equipment Co., 14600 Arminta St., Van Nuys, Calif.



Because HANLEY Duramic® Glazed Brick offers the designer (a) complete freedom in color selection . . . thirty in all; (b) three sizes (standard, Jumbo, Norman), and (c) the knowledge that this material meets the highest standards of uniformity and quality. In addition HANLEY Duramic® Glazed Brick colors do not fade, and the product is self-cleaning. Why not specify HANLEY on your next project.

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BOUNT



Improve visibility three ways with J-M Colorlith® chalkboards

Now you can provide classrooms with strong, durable, beautiful chalkboards that are truly easy on the eyes. With Johns-Manville Colorlith, you get uniform texture, minute pore structure and pleasing shades to eliminate the three major causes of poor chalkboard visibility: chalk build-up, low visual contrast and harsh colors.

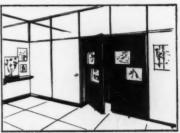
Colorlith is a dense, homogeneous sheet that provides a smooth, hard-writing surface that is extremely easy to clean. Because its minute pores cannot fill with chalk particles, dust build-up is cut to a minimum. This means infrequent washings, too! Colorlith's asbestoscement structure takes chalk easily, thus permitting full, unbroken lines for easy readability. And, Colorlith is available in three eye-pleasing colors-Spruce Green, Cameo Brown and Charcoal Gray. Extensive research and testing have proved these colors the most restful to the eyes.

Because of its unique composition, Colorlith retains its excellent properties over the years. For full details on this high-quality chalkboard, write to J. B. Jobe, V.P., Johns-Manville, Box 14, New York 16, N. Y. In Canada: Port Credit, Ontario. Cable address: Johnmanvil,

ADDITIONAL CLASSROOM USES FOR COLORLITH CHALKBOARD



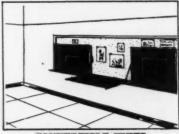
PARTITIONS



DOORS



WARDROBES





M JOHNS-MANVILLE



Product Reports

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Refrigeration Equipment

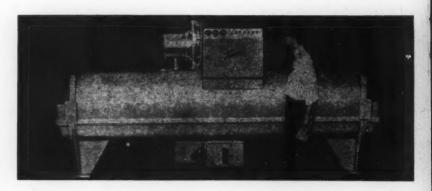
A packaged refrigeration unit offering substantial reductions in size and weight is available from American Standard Industrial Division. Called the Packaged Tonrac, it is intended for use in central station air conditioning systems, providing chilled water for operation of zone or individual room conditioners in hospitals, schools, small office buildings, motels, and other buildings of similar size. It is available in eight size increments from 50 to 100 ton nominal capacity. The packaged design is completely piped and factory-insulated; it requires no auxiliary water piping, refrigerant piping or control tubing installation on the job site. The basic Packaged Tonrac unit consists of a centrifugal compressor with its electric drive motor, a heat exchanger section consisting of condenser and cooler portions plus necessary piping, valves, and controls. Power is supplied from a separate motor-generator-exciter power unit which converts 60-cycle line current to 300-cycle current for the Tonrac motor. The completely assembled machine will pass through a standard 36-in. wide doorway, its weight, including power unit, is 6700 pounds. American Standard Industrial Division, Detroit 32, Mich.

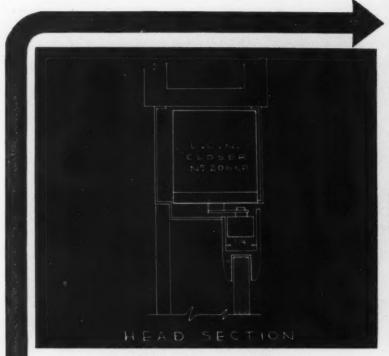


Fire Alarm System

The Notifier Co. has announced a coded transmitter panel, Series MCN, especially designed to meet general government specifications for automatic fire detection and alarm systems. Coded signals are shunt non-interfering, and allow the MCN panel to be connected to most standard coded systems. Notifier Co., 3700 N. 56th St., Lincoln, Nebraska

more products on page 206





CONSTRUCTION DETAILS

for LCN Overhead Concealed Door Closer Shown on Opposite Page
The LCN Series 200-CP Closer's Main Points:

- 1. Efficient, full rack-and-pinion, two-speed control of the door
- Mechanism entirely concealed; arm disappears into door stop on closing
- Hydraulic back-check prevents door's being thrown open violently to damage walls, furniture, door, hinges, etc. Door may open 130°, jamb permitting
- Hold-open (optional) set at any one of following points: 85°, 90°, 100° or 110°
- 5. Easy to regulate without removing any part
- 6. Used with either wood or metal doors and frames

Complete Catalog on Request—No Obligation or See Sweet's 1961, Sec. 18e/Lc

LCN CLOSERS, INC., PRINCETON, ILLINOIS Canada: LCN Closers of Canada, Ltd., P.O. Box 188, Port Credit, Ontario

Modern Door Control by LCNV. Closers Concealed in Head Frame

CITY HALL, LANSING, MICHIGAN LCN CLOSERS, INC., PRINCETON, ILLINOIS Construction Details on Opposite Page



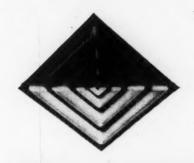


TUTTLE & BAILEY AIR DISTRIBUTION EQUIPMENT IS THE MARK OF A MODERN SCHOOL

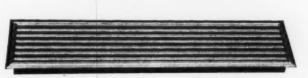
The broad range of T&B air distribution devices and accessory equipment for heating, cooling and ventilating answers every requirement of the architect, engineer and client. As the largest full-line manufacturer, T&B offers the precise piece of equipment for each job . . . setting the highest standards of appearance and performance.

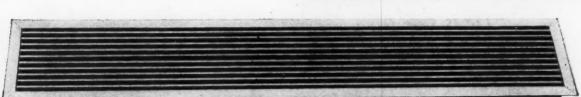
Write for the name and address of the Factory Office or Sales Representative nearest you.

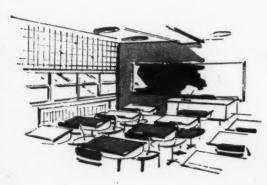
















TUTTLE & BAILEY

Division of Allied Thermal Corporation New Britain, Connecticut

Tuttle & Bailey Pacific, Inc., City of Industry, Calif.





"He is safe from danger who is on guard, even when safe..."

(Publilius, First Century, B. C.)

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ADT not only offers a complete range of automatic protection services, it also provides the finest inspection and maintenance service possible. With ADT maintenance service, you have the assurance that all systems receive regular and thorough inspection and test, with necessary repairs and replacement.

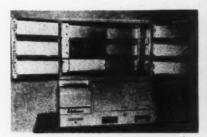
For more information, write for booklet "Protecting Life, Property and Profits." Or call an ADT security specialist for a copy. He's listed in your telephone directory.

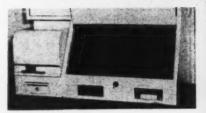
AMERICAN DISTRICT TELEGRAPH COMPANY
Executive Office: 155 Sixth Avenue, New York 13, N. Y.
A NATION WIDE ORGANIZATION



Product Reports

continued from page 202





Hospital Drug Control

The Brewer Pharmacal Engineering Co. has announced their new "Brewer System" devised specifically for hospital pharmacy use. Its purpose is to maintain maximum inventory control over medicaments throughout the hospital, and to reduce the work load in the pharmacy. The system consists of a central drug station, above, and a special cart. The station stores the drugs and delivers the proper dosage in response to a programmed card. The machine also automatically records the transaction. The cart has a drawer for each patient's medication, below, thereby reducing the possibility of the wrong drug being administered. The system is said to decrease the amount of time-consuming paper work for the nurses on duty, cut administration costs, and insure 24hour availability of medicines. Brewer Pharmacal Engineering Co., 9138 West Chester Pike, Upper Darby,



more products on page 218



BRUCE Ranch Plank[®]

Popular-priced pegged oak floor

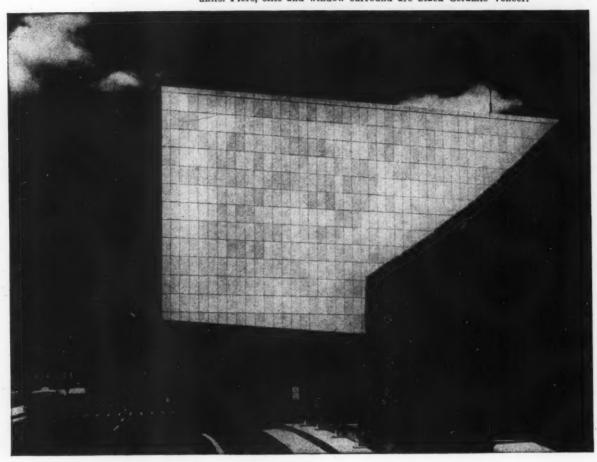
You don't need to break your budget to get buyer-appealing rooms with distinctive features. Bruce Ranch Plank is the popular-priced version of famous random Oak plank flooring. Walnut pegs are factory inserted, and the beautiful factory-applied finish saves the expense of on-the-job sanding and finishing. Ranch Plank is easy to lay: just alternate the 2½" and 3½" widths and nail them like strip flooring. Write for Bruce Flooring color booklet. You'll find our catalog in Sweet's Files.



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AMERICAN AIRLINES PASSENGER TERMINAL NEW YORK INTERNATIONAL AIRPORT, JAMAICA' 30, NEW YORK Kahn and Jacobs—Architects; John B. Kelley, Inc. of New York—Masonry Contractor; Turner Construction Co.—Contractor. Walls on both sides of stained-glass facade are antique ivory Ceramic Veneer in 12" x 24" units. Piers, sills and window surround are black Ceramic Veneer.



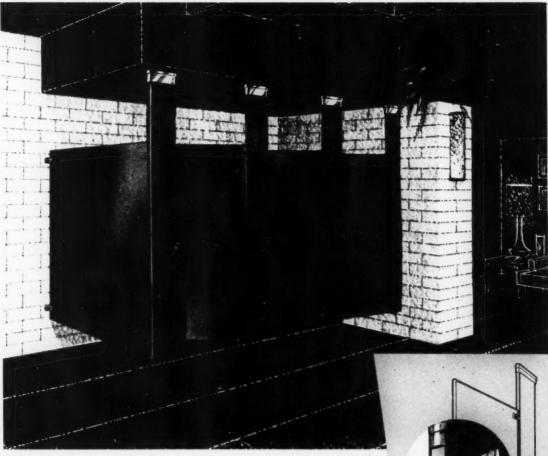
You'll find the perfect color to complement your design in Ceramic Veneer

The color range of Ceramic Veneer rivals the rainbow...enables you to create contrasting or harmonious effects in combination with other materials in buildings of all types. Ceramic Veneer is custommade to your precise specifications. You have a choice of sculpture, polychrome panels, plain surfaces, or one of the smart new Federal Seaboard grille designs. This versatility of form, color and texture applies to units large or small, for interiors or exteriors. From designability to desirability, from attractive initial cost to ease and economy of maintenance, Ceramic Veneer is in a class by itself. For even lower initial cost, investigate the advantages of Federal Seaboard's new 3%" CV Durathin. Construction detail, data, color guide brochure, advice and estimates on preliminary sketches, will be furnished promptly. Write today.



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Lowest "IN-PLACE" Cost

Sanymetal's completely flush design makes possible lower costs all along the line. Integral, factory-installed hinge brackets; concealed flush latch and recessed flush mounted hinges mean far faster, easier installation on the job site.

This unique flush design offers long, service-free life and lowest possible maintenance costs.

Ask your Sanymetal Representative or write direct for "Design Studies" by Sanymetal. This full-color collection

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Exclusive concealed latch offers smooth, maintenance-free operation. Working mechanism is completely concealed to greatly facilitate installation and cleaning.

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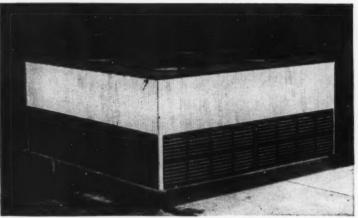
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- 3 Less floor space required—about 25% less over-all base or floor area than other towers of the same capacity. Plus a compactness that provides greater freedom of location.



Standard steel-skin single-cell Carrier Cooling Tower with a capacity of 170 tons



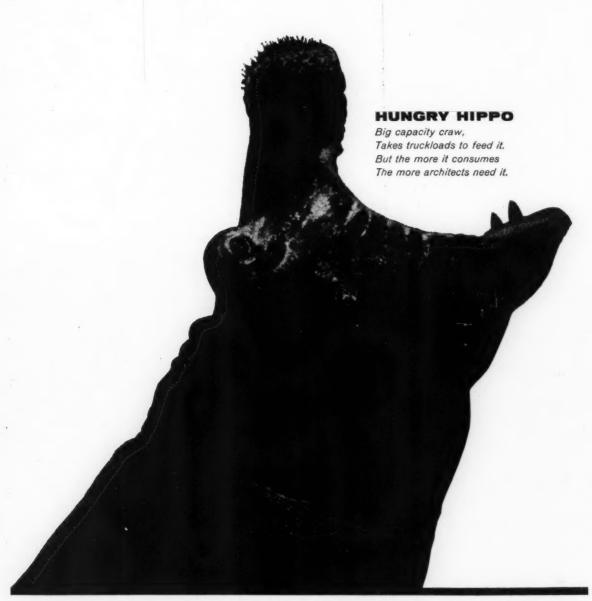
Transite-skin Carrier Tower with four 355-ton cells-total capacity: 1420 tons

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- 4 Lower operating weights—as much as a 50% reduction, and more, over conventional cooling towers.
- Greater efficiency—with heat transfer efficiency maintained at a high level under all water-flow conditions,

Carrier Induced Draft Cooling Towers, in 9 sizes with a capacity range from 170 to 500 tons in a single cell, are available complete with basin or without. For complete information, call your Carrier representative. Or write Carrier Air Conditioning Company, Syracuse 1, N.Y. In Canada: Carrier Air Conditioning Ltd., Toronto 14.





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architects do). This competent, wide capacity whiteprinter also boasts a big bazoo. 42° wide! And king-size appetite to match. "200" dotes on engineering drawings, specifications, floor plans, etc. Gobbles 'em... fast. Neat about it, though... crisp, dry prints in seconds. Placid disposition... like its brothers, Streamliner 400 and 100, "200" can be handled by anyone. Sound like a whiteprinter you'd like around? Say no more. Rent, lease, or buy. For the full, high volume, low cost story, mail coupon today.

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Inside...outside...the colorful look







Ray M. Hatton Elementary School, Bridge City, Texas Architect—Goleman & Rolfe, Orange, Texas







Dearborn Township School, Wayne County, Mich. Architect—Bennett & Straight, Dearborn, Mich.



South Lyon Elementary School, South Lyon, Mich. Architect—W. T. Anicka & Associates, Ann Arbor, Mich.



New Intermediate School, Vestaburg, Mich. Architect—Warren Holmes Company, Lansing, Mich.



Central Elementary School, Warsaw, N. Y. Architect—Trevor Rogers, Buffalo, N. Y.





of AmBridge Modular Construction

The architects who designed these schools all used AmBridge Modular Construction. Yet, each school has its own distinctive character because it was *individually* designed.

In a matter of a few months you can have a spacious, colorful new school designed to fit your needs and budget. AmBridge Modular School components are precision-fabricated before they reach the job site, so it takes only a handful of men to erect them. Think of the time and money that saves.

These distinctive schools will look just as bright and colorful years from now because baked enamel or vinyl interior partitions sparkle with an occasional wipe, and normal rainfall keeps the porcelainized exterior walls apple clean.

The steel walls are less than 3" thick, yet provide unexcelled sound control and better insulation than a conventional 12" wall plus plaster. And because walls are so much thinner, they provide about 5% more floor space compared to conventional construction.

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Beaver Area Senior High School, Beaver, Pa. Architect—B. J. McCandless, Ellwood City, Pa.



This mark tells you a product is made of modern, dependable Steel.



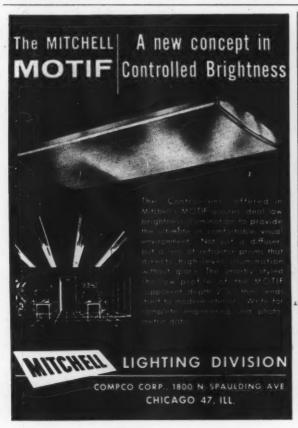




DIAMOND HEIGHTS, RED ROCK HILL

Choicest and fairest in all San Francisco. will be sold on a simple dollar bid basis October 24, 1961 Here in the City's heart is a twenty-two acre residential site, pre-designed and developed for about one thousand apartments Available to developers are four architectural designs, chosen in national competition Write to San Francisco Redevelopment Agency. 525 Golden Gate Avenue, San Francisco 2, for Developers Guide Statement, DIAMOND HEIGHTS, RED ROCK HILL.

MERELY SAN FRANCISCO'S FINEST VIEW





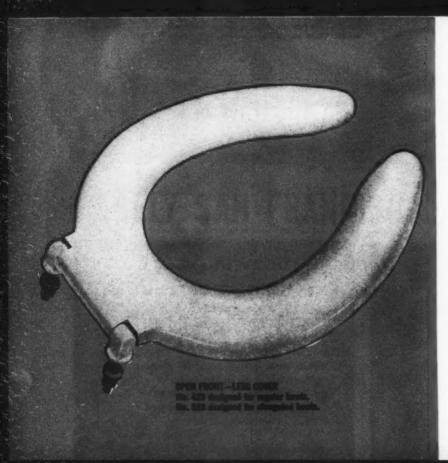


...what it means in pace-setting styling

The addition of the new Citation lever design provides a smart "Continental" look to the popular "Ten Strike" line of mortise locks. Pace-setting styling . . . unsurpassed quality ... unique construction ... the Russwin "R" assures all this, and more. It assures the services of a specialist, your Russwin distributor. He offers the finest in doorware ... and competent help with doorware problems. Let him serve you. Russell & Erwin Division, The American Hardware Corporation, New Britain, Connecticut.



INEW FROM A SERIES OF SEATS TO



Check These Beneke Benefits

- W HEAVY SECTION I HEAVY DUTY
- W HIGH-IMPACT POLYSTYRENE
- W BLACK | WHITE | FIXTURE COLORS
- V STAIN PROOF AND FADE PROOF
- V RESISTS MOISTURE | OIL | ACID
- SUPER-SMOOTH SURFACE NEVER
 PITS, PEELS, DENTS OR CRACKS
- MATCHING MOLDED HINGES WON'T CORRODE—EASY TO KEEP CLEAN
- SIZED TO FIT ALL STANDARD

 BOWLS—REGULAR AND ELONGATED
- POLYETHYLENE BUMPERS OUTLAST RUBBER, YET ARE REPLACEABLE

CHOOSE THE RIGHT HINGE FOR EACH APPLICATION FROM 5 BENEKE TYPES



Regular



Check



Self-Sustaining



Self-Sustaining Check



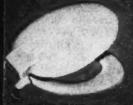
Self-Raising

BENEKE

MEET EVERY SPECIFICATION

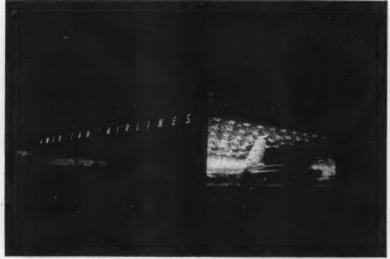






BENEKE CORPORATION

THE CLIENT IS PLEASED



American Airlines Hangar #10 Idlewild Airport, New York City Arch./Engr.—Kahn & Jacobs Contr.—Turner Construction Co.



Automatic Rolling Fire Door UN20

Since 1958 American Airline's Hangar #10 has been protected by Balfour Automatic Rolling Steel Fire Doors. These doors combine automatic fire protection with the dependable service essential to quick aircraft maintenance in this jet age hangar.



Catalog in Sweet's or write: WALTER BALFOUR & CO. INC. doc-port® doors steel service doors automatic fire doors pygmee® counter door steel grilles

Brooklyn 22, N. Y.

Product Reports

continued from page 206



Aluminum Swimming Pool

A typical installation of a Chester all-aluminum pool is on the sixth floor roofdeck of the new Robert Meyer Hotel in Jacksonville, Fla., William B. Tabler, architect. The pool is 20 ft by 40 ft, and 3 ft to 8 ft 6 in. deep. The pool can be installed on rooftops or setbacks, on top of slabs, or suspended between buildings. It can be relocated in the event of remodeling or expansion. Lighter than conventional swimming pool construction, it is warranted against cracks, rust, or seepage. It has builtin recirculating ducts and all welded fittings. The pool is delivered to the site in factory fabricated sections. Construction is of an aluminum, magnesium, manganese alloy; joints are sealed by M. I. G. arc welding, smooth-finished, and vacuum tested for water tightness. The pool can be converted to an ice-skating rink by the addition of special inserts, and can be adapted to serve as the water tower for a sprinkler system. It comes equipped with a self-housed Diavac filter which does not require a special filter room. Piped, wired, and valved at the factory, the filter system need only be positioned and connected when it arrives at the site. The pools can be obtained in a variety of shapes. including "T", "L", Wedge, and "Z". Chester Products, Inc., Belle Ave. and B & O R.R., Hamilton, Ohio

more products on page 222

What's News in Rubber...



LIGHTWEIGHT, DURABLE, permanently flexible and applied cold — that's the colorful new Butyl roofing system at Longway Planetarium, Flint, Mich., designed by Smith, Hinchman & Grylls Associates, Inc. (Detroit).



protection for Building foundations from both hydrostatic pressure and water infiltration is provided by sheeting of Enjay Butyl rubber. Butyl's high tear strength withstands rough handling on the job site.

Enjay Butyl...for top-to-bottom protection

Top-to-bottom building protection can be achieved more effectively than ever with a remarkable rubber known as Enjay Butyl — now available from rubber manufacturers in a variety of useful forms including extruded shapes, sponge stock, molded parts, tape and caulking, calendered sheet and latex coating.

Enjay Butyl, when properly compounded and processed, offers outstanding resistance to aging, ozone and oxidation; high tear strength and low permeability to gases and moisture.

Enjay supplies raw material to manufacturers of Butyl rubber products for the building industry. We will be glad to furnish a list of reliable manufacturers, or to work with you in the development of new Butyl applications. For your copy of our new folder, "The Versatile Rubber for Modern Building Design," write to Enjay, 15 W. 51st Street, New York 19, New York.

EXCITING NEW PRODUCTS THROUGH PETRO-CHEMISTRY

ENJAY CHEMICAL COMPANY

A DIVISION OF HUMBLE OIL & REFINING COMPANY





UNDER TWO FLAGS . . .

Lehigh Mortar Cement

Architect: Eric Bedford, Chief Architect and W. S. Bryant, Superintending Architect, British Ministry of Works.



Swiss Embassy, Washington, D. C.

Architect: William Lescaze, New York, N. Y.

• The British and Swiss Embassies in Washington are recent examples of fine masonry work on which John McShain, Inc. has used Lehigh Mortar Cement.

They know from long experience that the workability and plasticity of Lehigh Mortar Cement help masons do top quality work—that its uniformity and durability contribute to clean, strong, weathertight walls.

Whether you design embassies or ranchers, traditional or modern, you can approve Lehigh Mortar Cement with assurance that it exceeds the most rigid Federal and A. S. T. M. specifications. Lehigh Portland Cement Company, Allentown, Pa.

Contractor: John McShain, Inc., Philadelphia, Pa. and Washington, D. C. Lehigh Mortar Cement: Eckington Building Supply Co.,

Washington, D. C.

Ready Mix Concrete: Howat Concrete Co., Washington, D. C.

LEHIGH

+ LEHIGH MORTAN CEMENT

. LEHIGH EARLY STRENGTH CEMENT

. LEHIGH PORTLAND CEMENT . LEHIGH AIR-ENTRAINING CEMENT

- Licago

A complete line of Vertical **Enclosed Shaft Non-Clog Pumps**

FOR HEAVY DUTY PUMPING OF SEWAGE, SUMP AND STORM WATER, CONTAINING SOLIDS

Chicago pumps are durably built units featuring micrometer ball bearing adjustment of rotating elements, tongue and groove registering, and oversized bearings. The Chicago two port nonclog impeller remains in natural hydraulic balance thruout the pumping cycle. All impellers are also dynamically balanced.

Manufactured by Chicago Pump, with over 52 years of unequaled experience in the design and manufacturing of non-clog pumps. Backed by a reputation for excellence in design and outstanding service to its thousands of satisfied customers. Write for Bulletin 124-G.



Pumps pass

HIGHER CAPACITY VCS PUMPS

Pumps range from 4" thru 10" discharge size available for single or duplex installation. All pumps incorporate the same high grade materials and machined tolerances for extended life.



"Sealtrode", sealed electrode floatless pump controller is a dependable control for any installation. Electrodes cannot become coated or insulated with grease, oil, soap or solids. Elements never corrode as they are sealed from the liquid being pumped.







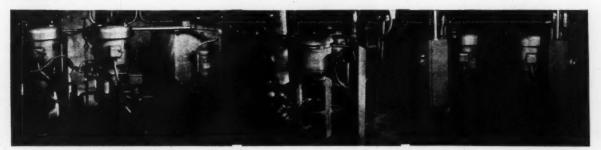


HYDRODYNAMICS DIVISION

CHICAGO PUMP

622M Diversey Parkway . Chicago 14, Illinois

@ 1961-CP-FMC





ALUNDUM NON-SUP TERRAZZO



WALKING SAFETY!

In all types of buildings where foot traffic is very heavily concentrated, stairways, floors and ramps of NORTON ALUNDUM Terrazzo Aggregate provide a rare combination of lasting beauty and permanent walking safety.

The use of Norton ALUNDUM Aggregate makes it possible to enjoy the outstanding advantages of terrazzo in many locations where its regular use might not be practical. Used in the surface in the proper proportion, Norton ALUNDUM

Aggregate provides terrazzo walking areas, either monolithic or precast, which are permanently non-slip, wet or dry, and exceptionally resistant to wear.

Illustrations show precast treads of Norton ALUNDUM Terrazzo in the Dunbar Vocational School, Chicago, III.

> Full specifications in Norton Pages in SWEET'S or on request from us or from the National Terrazzo and Mosaic Association, Washington, D. C.



NORTON -

NORTON COMPANY WORCESTER 6, MASS.

ALUNDUM AGGREGATE for Terrazzo and Cement • ALUNDUM STAIR and FLOOR TILE
ALUNDUM and CRYSTOLON Non-slip Abrasives

Product Reports

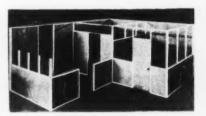
continued from page 218





Erosion Control

The photographs above show a ditch in Kansas before and after a G-B Ultracheck glass fiber blanket held installed. The glass fiber blanket held silt and soil in the bottom of the ditch and permitted grass to take hold and grow. The manufacturers suggest that their product be used for bridge berms, flumes, flood-control dikes, and similar situations where erosion is a problem. The blankets come in continuous rolls, 6 ft. wide and 150 ft long. Gustin-Bascon Mfg. Co., 210 W. Tenth St., Kansas City, Mo.



Partition Components

A new partition system of prefabricated components, called Commercial Easy Wall Partitions, provides seven components composed of a rigid insulating board core faced on each side with pre-finished hardboard. Simpson Timber Co., Seattle, Washington

more products on page 226



The fastener you see is a Ramset #3601. It weighs a scant 120 grains, red tip and all.

Because we're a conservative lotand build in safety factor upon safety factor-we rate its designed holding power at 160 pounds, anchored in 3,500 psi concrete. Almost 10,000 times its own weight.

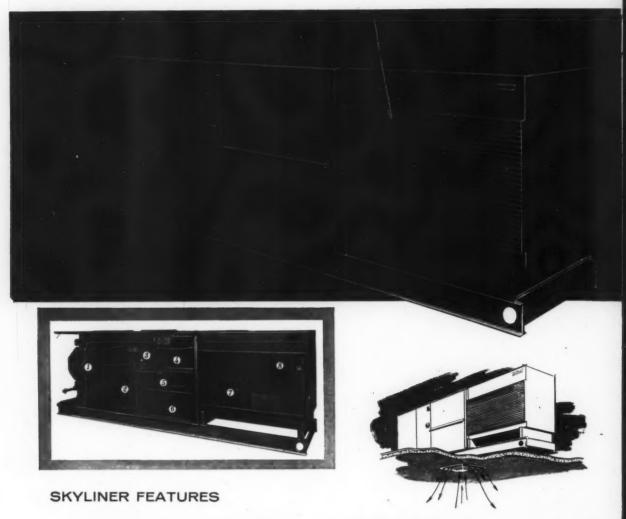
(In a series of controlled tests, our austempered Eye Pin averaged 2,000 pounds holding power in tension. Almost 120,000 times its weight. Hmmm. Move over Archimedes. With a big enough fastener, we could hold the world.)

Astonishingly enough, Ramset powder-driven fasteners do their job with

incredible speed. "In place" in less than 30 seconds. For setting an Eye Pin. For fastening steel to concrete or steel, wood to concrete or steel.

For a copy of our informative, 48 page "Fastener Handbook," with specifications and recommended applications, simply drop us a line on your company letterhead.

Ramset WINCHESTER-WESTERN DIVISION Clin 301-1 Winchester Ave., New Haven 4, Conn.



- Armer-coated heating section—gas-fired, two-pass, heavy-duty type, with all joints and surfaces coated, inside and out, with fire-fused A-19 corrosion resistant ceramic coating. A.G.A. approved.
- 2 Cooling evaporator coll—aluminum finned-copper tube type for peak performance. Located downstream of heating unit, adjacent to outlet.
- Factory-wired electrical panel—standardized and tested to simplify installation and eliminate costly troubleshooting.
- Permanently lubricated blower assembly heavy-duty, lube-packed, sealed ball bearings in blower and motor eliminate need for periodic lubrication service.
- Fresh air inlet—provides for blending of filtered makeup air with return air. Adjustable up to ½ of total volume.
- 6 Genditioned air outlet—connects directly to a short, pre-insulated combination supply-return duct. There are no transmission losses.

- Quality Compressor—operates up to 125°F. outside temperatures. Standard Tecumseh or Copeland, easily serviced or replaced in any section of the country.
- 8 Oversize Condensing Coll—the larger area dissipates more heat to provide greater cooling efficiency.

TECHNICAL INFORMATION SERVICE

Detailed information and product specification sheets on the Skyliner may be obtained from your local Janitrol representative or by writing the factory. There's no obligation, so why not bring your files up to date?



NEW ROOF TOP **HEATING-COOLING SYSTEM** HAS BROAD COST & COMFORT ADVANTAGES for single story buildings

SKYLINER

DOESN'T USE INSIDE SPACE...ELIMINATES DUCT SYSTEM...ALLOWS REDUCTION IN BUILDING HEIGHT... INSTALLS FAST WITH LESS LABOR

Whether you should specify the Janitrol Skyliner depends on the job, of course. But if the budget is tight, and you're looking for ways to chop costs without penalizing quality, by all means consider the Skyliner.

Shipped completely factory assembled, tested and ready for installation on the roof, the Skyliner "package" provides really economical heating, cooling or year 'round conditioning. Conditioned air is circulated through a ceiling diffuser (located beneath the unit) in the conditioned area. No duct system is needed . . . total building height can be reduced. It has an unobtrusive, low silhouette . . . no stack is required . . . flue gas exhauster is furnished. And not a single cubic foot

of usable inside space is used by the Skyliner system!

One or more Skyliner units may be used to provide a simple, efficient zonecontrolled comfort system, with each Skyliner controlled by its individual thermostat. A wide range of capacities is offered to match the needs of each

The Skyliner is completely enclosed in a weatherproof, insulated, aluminized steel cabinet. The unit has been operationally tested in 60 m.p.h. winds and for two hours at 12-inch/hr. rainfall. No water or sewage service, no refrigerant piping or charging and no complicated electrical wiring are required. All important factors in cutting costs and speeding up installation!

Here are Some Points to Remember about the Janitrol Skuliner

Multiple Unit Zene Centrel Type—You can have an individually sized and controlled unit for each occupancy area. Each unit operates only for its own zone, without standby or transmission losses. Multiple units assure continuity of service, since the shut down of a single unit for service or maintenance will not affect performance of other units.

Lew Installed System Cest—A Skyliner packaged system offers substantial sav-ings over a conventional site-fabricated central system by:

Elimination of equipment room. Elimination of duct system. Elimination of wiring, assembly, in-stallation and checking of individual

system components.
Elimination of water or sewage service.

for capacity and performance according to the rigid standards of the Air-Conditioning and Refrigeration Institute. Components are listed by Underwriters' Laboratory and the American Gas Association.

Lessing Plan to Save Capital investment A complete Skyliner system can be lease on a long-term basis. Permits owner to keep their working capital working

HEATING & AIR CONDITIONING

A DIVISION OF MIDLAND-ROSS CORPORATION, COLUMBUS 16, OHIO IN CANADA: MOFFATS LTD., TORONTO 15







Send for FREE Data Book

BURT

MAKE AIR WORK FOR YOU

391 Standard Models To Choose From PLUS Complete Facilities To Design And Manufacture Special Ventilators

BURT VENTILATOR	IRT VENTILATOR TYPE (CFM)		SIZES	MODELS	DISCHARGE	
FREE-FLOW GRAVITY	Gravity	113 to 35,560	16	16	Upward	
LO-HYT GRAVITY	Gravity	AS REQUIRED	18	18	Downward	
MONITOR	Gravity	MADE TO ORDER		1	Upword	
MONOVENT (Ridge)	Gravity	48 to 5,184	16	15	Upword	
REVOLVING	Gravity	123 to 10,931	17	17	Sideward	
STANDARD GRAVITY	Gravity	35 to 24,890	19	19	Upwerd	
THERMAVENT	Gravity	MADE TO ORDER		2	Upward	
CENTRIFLOW	Power	65 to 36,430	56	184	Downward	
FREE EXHAUST FAN	Power	5,000 to 75,550	7	17	Upword	
FREE FLOW FAN	Power	1,040 to 99,050	15	35	Upward	
LOW TYPE	Power	337 to 47,400	15	60	Downward	
STANDARD FAN	Power	685 to 15,000	10	10	Upward	

There is a type of Burt Ventilator to meet any ventilating problem that Roof Ventilators can solve. Burt's specialized engineering, equipment and craftsmanship—from 60 years of designing and building ventilators—is your assurance of complete satisfaction. Cost economies are assured from almost 400 standard models that are quickly available. Write for Burt's Complete Line Data Book—it's free!

The Bur Manufacturing Company

48 E. South Street

Akron 11, Ohio

MEMBER AIR MOVING & CONDITIONING ASSOCIATION, INC.

Product Reports

continued from page 222



Permanent Forms

The photograph above shows the placing of Wheeling's Tensilform prior to the pouring of a concrete roof deck. The uniform sides and ends are designed for overlapping and a neat fit. With a hung plaster ceiling, such an assembly can achieve a four hour fire rating, left exposed, it has a one hour rating. Tensilform is available in uncoated and galvanized finishes. Other Wheeling products include Super-Rib steel roof decking and Wheeling Long Span, designed to span up to 22 ft. Wheeling Steel Co., Wheeling, W. Va.



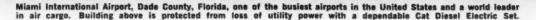
Laboratory Equipment

The Metalab Equipment Co. has announced their Style-Scope and Mobilescope series of laboratory wall tables and center tables. Instead of conventional drawers and cupboards, the units either slide or roll out and are fitted with removable plastic trays. Mobilescope units are portable and independent of the structural members of the table, so that supplies and apparatus can readily be rolled to any lab station where they are needed. Metalab Equipment Co., Hicksville, L. I., N. Y.

more products on page 230

engine WHEN POWER FAILS CATERPILLAR

CAT ELECTRIC SETS KEEP MIAMI INTERNATIONAL BRIGHT



In the path of Caribbean hurricanes, one of the world's busiest air terminals has a higher than average risk of utility power loss. Cat Electric Sets were part of the planning; power outages last only a few seconds as automatic controls furnish emergency power to equipment and lighting in the main passenger terminal. The Cat D397 provides power as long as the utility power is interrupted.

In another terminal area—the Pan American World Airways' ticketing and passenger section—a Cat D311 Electric Set stands by to immediately provide power in the event utility power fails.

When you plan buildings where people gather to work, to live, to shop, to dine, to relax or to recuperate, add dependable Cat Diesel or Natural Gas Electric Set protection. A Cat Standby Set has the power to safeguard lives, prevent panic, looting and loss of revenue.

It enhances the value of the building. A single power loss will attest to the wisdom of Cat standby power.

388

When properly installed, Cat Electric Sets will start in as little as 6 seconds after a utility power outage occurs. Installation requires little or no special or additional construction. Fuel storage for Cat Diesels requires no special protection against explosion because they use non-explosive diesel or furnace oil. Cat Natural Gas Engines are equally simple to install.

The cost of owning, as well as the cost of buying, Cat standby power is low. Caterpillar's 4-cycle operation . . . the fuel system-the inherent design simplicity-mean extreme reliability with a minimum of maintenance.

Caterpillar power is dependable power. See Sweet's File for specification data. Call your Caterpillar Dealer for specification help and complete information.



A Caterpillar D311 Electric Set, rated at 30 KW, furnishes additional power for the Pan American World Airways terminal area. There are Cat Electric Sets rated up to 600 KW suitable for application either as single or multiple units for larger KW loads.

> This Cat Diesel Electric Set — Model D397 — can furnish 350 KW to Miami Interna-tional Terminal. This set safeguards people in building, enables work to continue and furnishes power to guide air traffic.

Engine Division, Caterpillar Tractor Co., Peoria, Illinois, U.S.A.



The RUBEROID Co. Mastic Tile Division Announces the Awards in the \$25,000 3rd Annual Design Competition

to stimulate a major contribution to "Long-range Planning for the Medical Care facilities in the Community"



The objective of the RUBEROID-MASTIC program has been to encourage architectural thinking in terms of projects of public interest. The First Annual Competition was "Better Living for the Middle Income Family." The 1960 competition enlarged on this with "Education for Youth and Adult Recreation for all the Family." Now, the 1961 Competition provides still further demonstration of how the architectural profession can contribute importantly to community improvement.

THE JURY READING FROM LEFT TO RIGHT:
E. Todd Wheeler, FAIA, Chairman, AIA Committee on Mospitals and He
James J. Souder, AIA • Donald E. Neptune, AIA • Raymond Bro
School of Nospital Administration, University of Chicago • Donald S. Net
FAIA • A. Gerdon Lerimer, FAIA, Professional Advisor.

NATIONAL AWARDS

Grand Prize . \$10,000	Victor A. Cusak, AIA, and	Charles J. Luckman Associates Beverly Hills, Calif.
Grand Prize \$10,000	James S. Moore, AIA	Medical Planning Associates Beverly Hills, Calif.
Second Prize \$5,000	Jimmie W. Bruza, James F. Knight James S. Daley and William C. Watson,	Jr. Oklahoma State University Stillwater, Okla.
Third Prize \$2,500	John V. Shoeris, AIA	ey, Ellington, Cowin & Stirton, Inc. Detroit, Mich.
\$500 Merit Awards	Clarence Roy, ASLA	Ann Arbor, Mich.
 Masao J. Itabashi and Harutun V Alan Bentley Glass, Forrest L. Jol Pacifico Bacalzo and Borivoj Riel Marvin Berman, AlA, and Stanle Ted Granzow Robert D. Guss, Jr. 	ard W. CramerOklahoma aporciyanSmith, Hinchman o nns and David M. GriffinOklah by S. Kogan, AIABi Skidmore, Owin Edward Ohio	& Grylls Assoc., Inc., Detroit, Mich. noma State Univ., Stillwater, Okla. Epstein & Sons, Inc., Chicago, III. erman & Kogan, Los Angeles, Calif. Igs, & Merrill, New York, New York
1. Stanley E. Abercrombie, Jr. and	John M. Ellis Massachusetts Institute	e of Technology, Cambridge, Mass.
2. Firoz Rustum Mistry		ester C. Haas, AIA, Shreveport, La Merrill Jew, San Francisco, Calif.
	PECIAL STUDENT AWARD	
First Prize \$2,000	Alan Bentley Glass	Oklahoma State University Stillwater, Okla.
Second Prize \$1,000	Miller Edward Gerardy and Richard W. Cramer	Oklahoma State University Stillwater, Okla.
Third Prize \$500 \$250 Merit Awards	∫ Don Dommer and	North Dakota State University West Fargo, N. D.
Stanley E. Abercrombie, Jr. and Blythe S. Brewster John L. Lawler	John M. Ellis Massachusetts Institute Unive	Pratt Institute, Brooklyn, N. Y. rsity of Minnesota, St. Paul, Minn.



Ready in late 1961. Elaborate 14" x 11" album brochure reproducing prize-winning plans in large scale and full detail. (Limited quantities of 1959 and 1960 award brochures still available.) Write on your company or professional letterhead, include \$1.00 to cover mailing and handling cost, to: Award Brochure, The RUBEROID Co., 733 Third Ave., New York 17, N. Y.

The RUBEROID Co. manufacturers of Matico Floor Tile and (RUBEROID') Building Products



WILL YOUR BUILDINGS BE ADEQUATE WHEN WATER RATES SKYROCKET?



Read these plain facts about the coming water shortage and how you can prepare your buildings for it right now.

By 1970, water consumption in the U.S. will increase 25%. Yet available water will increase only 10%. One sure consequence of this shortage-to-be: boosted water rates.

Will your buildings be ready for these increased water rates? Not if they're still pouring water wastefully through uncontrolled showers and fixtures! For the only way to keep operating costs down when water rates go up is to use less water.

There is a way to specify less water in showers and fixtures . . . and still assure a completely satisfying flow!

The answer is a remarkable device called <u>Autoflo</u>.® Available in Speakman fittings, it reduces water consumption by 50%—yet the user cannot tell!

With Autoflo the flow of water flexes its one moving part, a neoprene diaphragm (B) on nylon orifice (C) . . . maintaining a set rate of flow regardless of inlet pressure.



In a single shower, used daily, Autoflo saves over 6,000 gallons a year

	water p.s.i.	average shower time	gallons used per minute	gallons used per shower	gallons used annually	gallons saved
conventional shower	50	5 min.	8	40	14,600	annually with
Speakman shower with Autoflo	50	5 min.	4.5	22.5	8,212.5	6,387.5

And remember, this is just one shower used once daily! The savings are far greater with multiple installations and/or more frequent use. Best of all, Autoflo savings don't stop with shower water alone. Autoflo also lowers fuel costs, stretches hot water supplies, and reduces overload on waste disposal systems and septic fields at the same time!

Autoflo is available now in a wide range of famed Speakman showers and plumbing fittings. Get full details before you specify a single plumbing item on your next project. Mail coupon today!

SPEAKMAN COMPANY

WILMINGTON 99, DELAWARE In Canada write Cuthbert-Speakman, Montreal 3, Canada

SPEAKMAN COMPANY,	ept. AR, Wilmington 99, Delaware	
Please send me your fre	Autofio catalogue S-99-A.	
Name		
Company		
Address		
City	Zone State	

Product Reports

continued from page 226



Portable Photocopier

The Anken Co. has introduced a portable photocopying machine built into an attaché case. It weighs 12½ pounds and its dimensions are 17½ by 12¾ by 4¾ inches. The company also produces a second model, called the Contura, which contains an attachment for copying large sheets and pages from bound volumes. Anken Chemical & Film Corp., Newton, N. J.

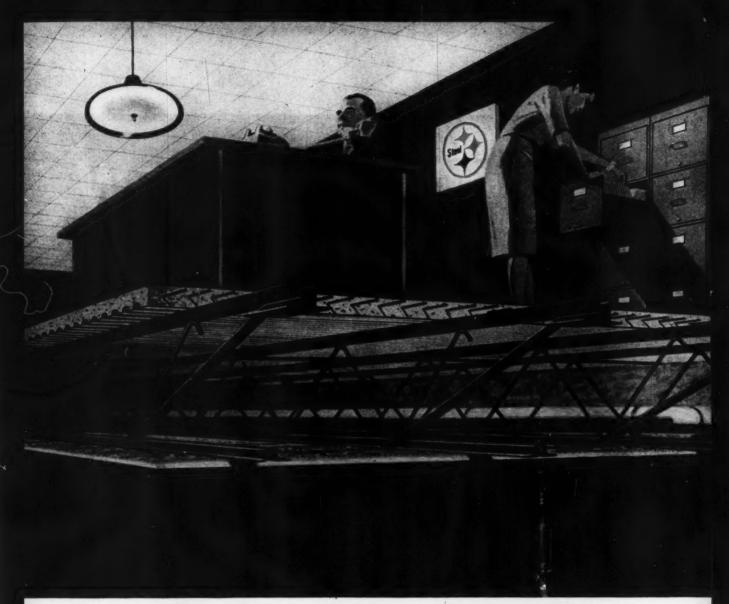


Portable Drafting Machine

A small portable drafting machine for 8½ by 11 in. paper is being marketed by the Draftette Co. The scale and machine are of aluminum, the case is vinyl, and the whole unit weighs only a pound and a half. Draftette Co., P.O. Box 794, Beverly Hills, Calif.

Miniature Lamp

The Tensor model 5979 sub-miniature All Purpose Utility Lamp is a small sized, but high intensity, light source. It can be folded so that it is 3 in. high by 7 in. long by 2 in. wide. The lamp shade is 1½ in. in diameter and uses a G.E. 55 bulb. The footlong arm rotates at its base, and at an elbow joint, and the lamp housing can also be rotated. Tensor Electric Development Co., 1873 Eastern Parkway, Brooklyn 33, N. Y.



This floor-ceiling construction resists fire for 3 hours or more

Whenever fire-resistance is a primary requirement... the Bethlehem Open-Web Steel Joist construction shown above is hard to beat. It provides fire protection of 3 hours or more, as required for Class A fireproof structures such as stores, schools, hospitals, and apartments.

The top slab is $2\frac{1}{2}$ -in. reinforced concrete. Ceiling is a 1-in. layer of gypsum-vermiculite plaster applied on metal lath and proportioned in the range 2:1 to 3:1 gypsum to heat-

expanded vermiculite by weight. Bethlehem Slabform provides an excellent solid steel centering for the slab.

The nearest Bethlehem sales office will be glad to give you full details on both steel joists and Slabform or any other of the many steel products made by Bethlehem for building construction. And, if you wish, one of our engineers will visit you and discuss your building. No obligation, of course.



BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

Export Sales: Bethlehem Steel Export Corporation

BETHLEHEM STEEL



FROM THE LEADER . . .
A CREATIVE CLASSIC IN EXTRUDED ALUMINUM . . .

NEW

by MINUS

Staccato LINE

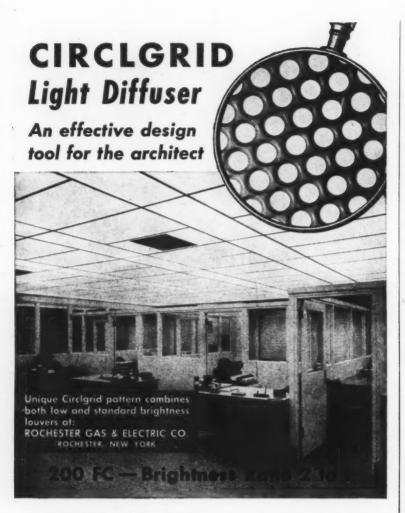
LINEAR AIR DIFFUSERS

Sharp clear notes of vibrant extruded aluminum—highlighted against a recessed background of anodized black. Available in endless patterns to harmonize with, or accent, any architectural motif. That's superb new Titus Staccato Line . . . with design so decidedly different IT GIVES A STARTLING NEW DIMENSION TO THE LINEAR CONCEPT!

And here's air diffusion efficiency to match the breathtaking beauty! Staccato Line is perfect for in-line use on sidewall or ceiling... for heating, cooling or ventilating.

Available in a wide variety of extruded aluminum border styles. Furnished in many standard widths, in any length.





Licencees

ABCHTECTURAL CHLINGS
Long Island City, New York
BENIZARIN DIVISION
THOMAS INGUSTRIES
DON Pictines, III.
COLUMBIA LIGHTING
Spebane, Wash.
DIFFUEALITE CO.
Conshobacken, Pe.
LIGHTING PRODUCTS, INC.
Highland Part, III.
LISECRAPT MPG. CORP.
Passeic, M. J.
LUMINOUS CEILINOS, INC.
Chicogo, III.
NEWMARM SCHEANZ LIGHTING CO
Danver, Cobe.
SYLVANIA LIGHTING PRODUCTS
Wheeling, W. Vo.
THERMOTARE, INC.
Datroil, Mich.
TRIANGUE ELECTRIC MPG. CO.
Miomir, Fig.

TROPICAL LIGHTING, INC.
Caroline, Puerte Rice
UNITED LIGHTING & CEILING CO.
Oalland, Calif.
JOHN C VIRDEN CO.
Cleveland, Ohio
LIGHTING DYNAMICS, INC.

LIGHTING DYNAMICS, INC.
Dolles, Texes - City of Industry, Colif.
J. A. WILSON LIGHTING
Erie, Po.

Circlgrid Light Diffusers offer flexibility in design—by size—by translucencies—by color—and with or without perforations. You'll find Circlgrids extremely rigid yet weighing only 3½ oz. per square foot. Circlgrids, with 500 openings per square foot, circulate cooling air, reduce dust settling 44%, appreciably trap sound in the plenum, and, most important, are approved for installation under sprinklers.

Whatever luminous ceiling pattern you plan, you can be sure that Circlgrid will give up to 25% more comfort light than other louvers.



Write for sample and illumination test data.

Box 655, Erie, Pa.

C | r | v | a | c |

p | a | s | t | i | c | s

Division—The Wilson Research Corp.

Office Literature

continued from page 198

Plexiglas Signs

Rohm & Haas Co. has published a handbook of technical information on the design, lighting and assembly of signs made from Plexiglas. Although intended primarily for sign companies, the booklet should be useful to anyone interested in sign construction. Rohm & Haas Co., Philadelphia 5, Pa.*

Heat Exchangers

A new 16-page bulletin on U-tube heat exchangers has been published by Killebrew Engineering Co. The exchangers have solid bronze baffles or tube supports as a standard feature. The bulletin contains sizing information, dimensions, and a selection chart that indicates the lowest-cost unit for the desired capacity. Killebrew Engineering Co., 8640 Pardee Lane, St. Louis 26, Mo.

Shower Fixtures

The Logan Mfg. Co. has released a series of brochures describing their multiple unit shower fixtures. Included are descriptions of both surface-mounted and free-standing types, and the company's line of "vandalproof" fittings. Logan Mfg. Co., P.O. Box 111, Glendale, Calif.

Dust Filter Selection

The Mellon Institute has made available reprints of E. R. Frederick's article, "How Dust Filter Selection Depends on Electrostatics," which originally appeared in Chemical Engineering. Office of Public Relations, Mellon Institute, 4400 Fifth Ave., Pittsburgh 13, Pa.

Plastic Window Units

The Plyco Co. has published a file of information on their plastic window units and fabricated wall systems. It includes details, photographs of installations, reports of tests, and outline specifications. Plyco Co., Elkhart Lake, Wis.

Compressed Air and Gas

A revised and expanded third edition of the Compressed Air and Gas Handbook, 592 pages, 323 illustrations, is available at \$8.00 from the Compressed Air and Gas Institute, 55 Public Square, Cleveland 13, Ohio

*Additional product information in Sweet's Architectural File

more literature on page 238

Great new things are shaping up in concrete block



Hamden Mart Branch of The Second National Bank of New Haven. Architect: Rossetti & Mileto, Bristol, Conn. Grille block by The Plasticrete Corporation, Hamden, Conn.

Atlas Masonry Cement provides the right mortar

New designs in masonry construction require both a functional and decorative material. That's why more architects are utilizing concrete grille block indoors and out. These attractive masonry units can be used for solar screens, accent walls, partitions, perforated facades. They can be used to control light, air, wind or sun — substantially reducing air-conditioning and heating costs. Inquire about sizes and designs at your local block producer. ☐ For laying up grille block, specify ATLAS MASONRY CEMENT for mortar. It helps produce a smooth, workable mix; saves labor; cuts waste;

assures a good bond; provides joints that are uniform in color. Complies with ASTM & Federal Specifications. For literature, write: Universal Atlas, Dept. M, 100 Park Avenue, New York 17, N. Y.

"USS" and "Atlas" are registered trademarks



Universal Atlas Cement Division of United States Steel ANDERSEN WINDOWS SOLVE PROBLEMS IN ANY TYPE OF LIGHT CONSTRUCTION



Our Savior's Lutheran Church Madison, Wisconsin Architects: Ames, Torkelson, Nugent

Removable diamondlights heighten "Gothic Appearance" of this contemporary church

Stock Andersen Casements are used in sanctuary of Our Savior's Lutheran Church in Madison, Wis.

The diamond-light wood grilles in these Casements are removable. Normal maintenance and painting can be done easily and at minimum cost.

The handsome finely-finished millwork complements the natural beauty of the rough stone, wood siding and the dramatic post and beam construction.

Andersen Windows offer maximum design flexibility for any light construction project; 7 kinds of windows, 30 different types, 685 cataloged sizes, thousands of combinations.

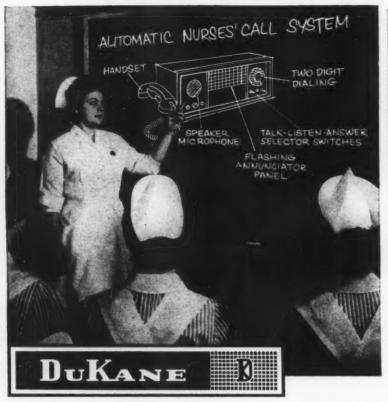
Check Sweet's File—and contact your local distributor for Tracing Detail File and additional information. Andersen Windows are available from lumber and millwork dealers throughout the United States and Canada.

Andersen Windows

ANDERSEN CORPORATION • BAYPORT, MINN America's most wanted windows







More than 300 reasons why DUKANE AUTOMATIC NURSES' CALL SYSTEMS provide unmatched performance in nurse-patient contact!

The installation of a DUKANE Automatic Nurses' Call System boosts staff efficiency and increases the functional potential of the nursing staff. Needless trips are automatically eliminated through two-way, audio-visual, nursepatient communication. Incoming patient calls are registered audibly and visually on Master Station annunciator panel and outside corridor lights. Strategic positioning of answering stations eliminates needless steps for nursing staff in answering simple patient needs. Combine all of these muchwanted features with a nationwide network of DUKANE Sales Engineering Distributors and you have assured customer satisfaction. Over 300 local DUKANE Distributors are ready to assist you with planning a nurses' call system to meet your need and budget, supervision of installation and servicing your needs for complete satisfaction for years to come.



WRITE TODAY FOR COMPLETE

INFORMATION

AUTOMATIC NURSES'
CALL SYSTEM

DUKANE Systems provide human engineered nursepatient fingertip control, functional flexibility, installation simplicity, improved service, increased staff efficiency and speed plus boosting staff morale and patient security.

UUKANECORPORATION

Dept. AR-91 St. Charles, Illinois

Office Literature

continued from page 234

Fire Doors

The Overly Co. has published a 1961 edition of their Fire Doorater, which contains a review of the company's products tested by the Underwriters' Laboratories. A guide to the selection of hardware for fire doors and fire-exit doors is given in chart form, examples of Overly's 90 different door styles are shown, and information is provided on U/L label requirements for hollow metal doors. Overly Manufacturing Co., 580 West Otterman, Greensburg, Pa.*

Heating and Ventilating

A comprehensive catalog of their heat diffusers and large heating and ventilating units has been produced by the Carrier Co. It contains selection charts for steam and hot water coil capacities, fan motor ratings, and dimensions of all models and sizes available. The units, designed for commercial and institutional use, have air capacities ranging from 1,500 to 32,000 cfm, Btu capacities from 47,000 to 2,990,000. Carrier Air Conditioning Co., Syracuse, N. Y.*

Timber Foundation Piles

The American Wood Preservers Institute has issued a second edition of their book on pressure treated timber piles for permanent foundations, revised and brought up to date from its first publication in 1955. The book contains 12 articles on various aspects of the subject and costs \$1.50. American Wood Preservers Institute, 111 W. Washington St., Chicago 2, 111

*Additional product information in Sweet's Architectural File

Literature Requested

The Washington State Parks and Recreation Commission, Construction Division, 522 South Franklin St., Olympia, Washington, wishes to be placed on mailing lists for literature and catalogs published by manufacturers of building materials. REDWOOD'S k FACTOR OF 0.76 HELPS CUT HEATING COSTS in remains where out zero temperatures and root must are commonplace, redwood is held in high enteringly architects and cost surrounds around. Not may does Certified Kilo Oracl retwood provide exceptional insulation value (redwood one inch thick equals controlled to inches thick), but it can also be depended upon to stay weathercight and resist weather checking. And in every part of the country, in every climate, the hieroff, warmth and natural beauty of redwood have made it the hallmark of the best in contemporary school architecture.



CALIFORNIA REDWOOD ASSOCIATION + 576 SACRAMENTO STREET + SAN FRANCISCO 11

CRA-TRADEMARKED CERTIFIED KILN DRIED REDWOOD

The California Redwood Association coordinates the research, forest management, grading and consumer service activities of these member mills: WILLITS REDWOOD PRODUCTS CO. • GEORGIA-PACIFIC CORP. • UNION LUMBER CO. • THE PACIFIC LUMBER CO. • ARCATA REDWOOD CO. • SIMPSON TIMBER CO.

SURE, WE CAN LEAVE THE
REINFORCEMENT OUT OF THE ROOF DECK
(HAVE A CIGAR). WHO'S TO KNOW?
AFTER ALL, YA' CAN'T SEE REINFORCEMENT.
SO WE'LL SAVE A FEW BUCKS
(HAVE A CIGAR).



I MEAN, LOOK AT THIS
ROOF DECK HERE. WE LEFT THE
REINFORCEMENT OUT OF IT.
SO IT DEFLECTS A LITTLE, SO WHO
CARES? (HAVE A CIGAR).

CRACKS? THEY ALL CRACK.
THESE CRACKS JUST HAPPEN
TO BE BIGGER. BUT SO WHAT?
(CAREFUL, DON'T GET
YOUR FOOT CAUGHT).





YOU CAN'T GET AN HOURLY FIRE RATING WITHOUT REINFORCEMENT? DON'T BE SUCH A WORRY WART. HOW MANY BUILDINGS BURN DOWN?

LISTEN, STOP WORRYING, WHAT
DO YOU NEED IMPACT RESISTANCE FOR?
WHO COMES UP HERE BUT BIRDS?
BESIDES IT'S GOT ENOUGH IMPACT RESISTANCE WITHOUT REINFORCEMENT. LOOK,
I'LL SHOW YOU.





This advertisement published in the interest of people who want a roof over their heads, not around their ears.

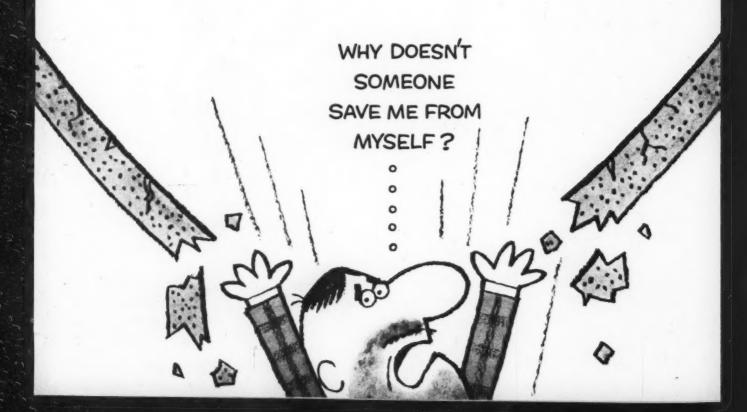
KEYSTONE STEEL & WIRE COMPANY

Peoria, Illinois

MANUFACTURERS OF KEYDECK



(a remarkably good roof deck reinforcement)



Only MEDUSA Offers PORTLAND CEMENTS

To meet exacting requirements for every concrete and mortar design.

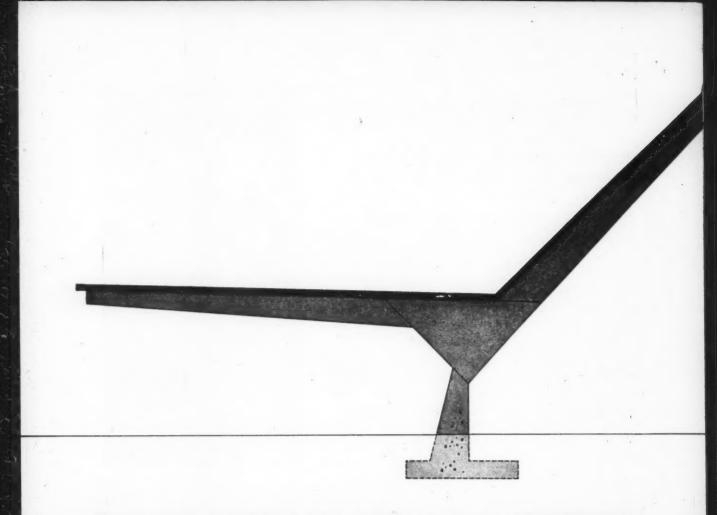
Whether your design calls for gray, white or tinted, plain or waterproofed concrete or concrete units; white or colored mortar to harmonize with certain brick, block, or stone, each use is best met by specifying one of the eleven Medusa Portland Cements listed at the right.

Medusa manufactures more different types of special cements than any other cement manufacturer. An understanding of these cements and their uses enables you to make specifications that assure beautiful, reliable concrete and masonry. Write today for A.I.A. Literature including specifications for any of these Medusa Portland Cements.

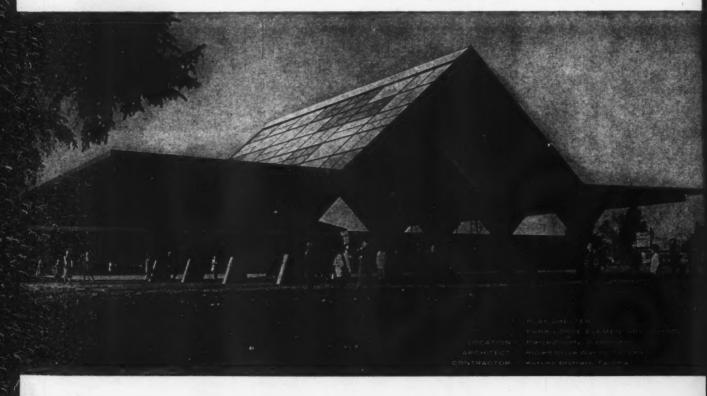
Gray
White
Waterproofed Gray
Waterproofed White
Gray Air Entraining
White Air Entraining
High Early Strength
StoneseT White Masonry Cement
BrikseT Gray Masonry Cement
White Tile Grout Cement
White Dry Wall Grout Cement
White Dry Wall Grout Cement

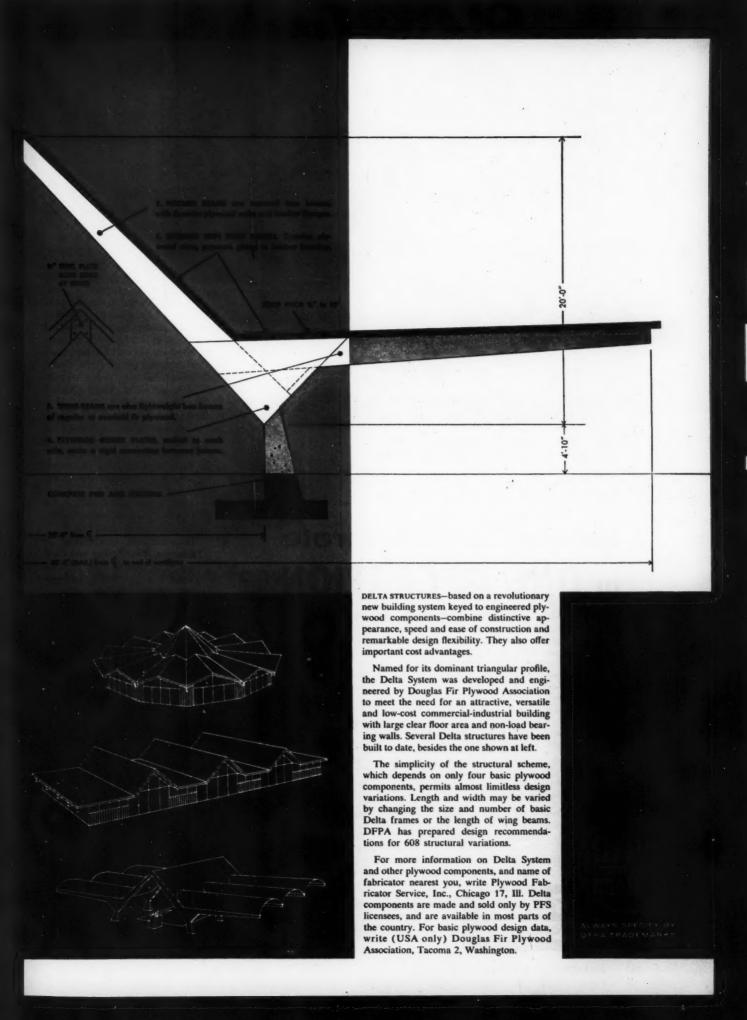
HENRY FORD HOSPITAL GARAGE, Detroit, Michigan Architect: Albert Kahn Associates, Inc., Detroit, Mich. Gen. Contractor: Darin & Armstrong, Inc., Detroit, Mich. Sub Contractor: The Truscon Div. of Devoe & Raynolds (pre-cast units) Detroit, Mich.





the most exciting ideas take shape in fir plywood







Cure, Dustproof, Harden and Seal Newly Laid Concrete in ONE OPERATION

One application of TREMCO TREMCRETE - after final troweling and when floors can be walked on-can cure, dustproof, harden, and seal newly laid concrete floors at an applied cost that is substantially lower than the lengthy conventional mois-ture curing method. Tremcrete dries to a tack-free stage in 2-3 hours . . . possesses superior abrasion resistance . . . protects against wear, most solvents and alkalis . . . repels oils, greases and resists various types of staining commonly found during construction. Cleaning of floors are facilitated prior to turning the building over to the owner. The application of paint, asphalt tile and other decorative coverings can be made directly over Tremcrete treated floors when construction is completed.

An Independent Testing Laboratory reports the following performance of Tremcrete: "After 3 days, more than 97% of the original water content of the slab was still present. After 7 days, more than 95% was still present.'

TREMCRETE meets ASTM Specifications C-309-58, Type I. For additional information contact your Tremco Representative or write: The Tremco Manufacturing Company, 10701 Shaker Blvd., Cleveland 4, Ohio or The Tremco Manufacturing Company (Canada) Limited, 220 Wicksteed Avenue, Toronto 17, Ontario. See our Catalogs in SWEET'S.



"When you specify a Tremco Product ... you specify a Tremco Service!"

The Record Reports

On the Calendar

September_

10-15 Engineering seminar on Structural Aspects of Architectural Engineering - Pennsylvania State University, University Park, Pa.

20-22 1961 annual convention, The Producers' Council. Inc.: theme: better communication of the elements of a company, its capabilities and its products to the customer-Pittsburgh

24-28 63rd annual conference, American Institute of Park Executives; theme: "Parks and Recreation-The Years Ahead" -Rochester, N.Y.

24-29 Annual National Technical Conference, Illuminating Engineering Society-Chase Park Plaza Hotel, St. Louis, Mo.

25-28 Fall meeting, the American Welding Society-Adolphus Hotel, Dallas

25-28 1961 Industrial Building Exposition and Congress-The Coliseum, New York City

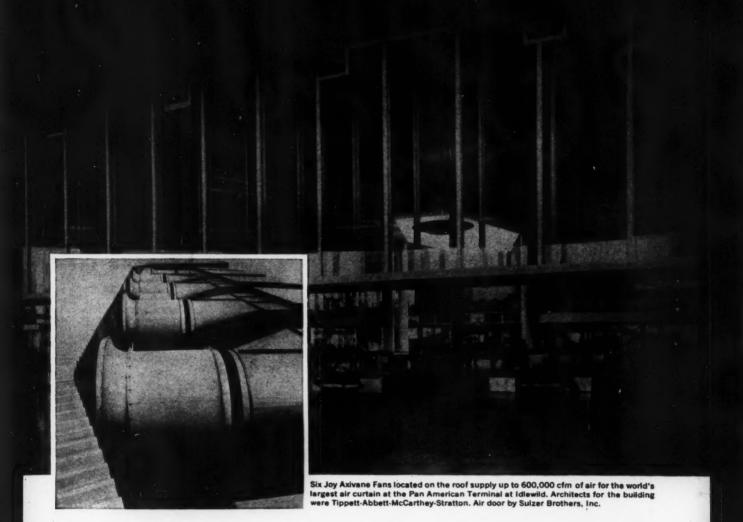
27ff International Conference on Heating, Ventilating and Cooling. The Institute of Heating Ventilating Engineers; through Oct. 4-London

October_

43rd National Recreation Congress, sponsored by the American Recreation Society and the National Recreation Association; cooperating agencies: Recreation Association of Michigan, Detroit Dept. of Parks and Recreation and Federation of National Professional Organizations for Recreation; theme: "Recreation in America"-Cobo Mobile Hall, Detroit

Annual meeting, American Society of Industrial Designers; theme: "Design Explorations"-Santa Catalina Island, Calif.

Second Annual Decorating Show, "Decoration & Design 1962," sponsored by the Resources Council of the American Institute of Interior Designers, the New York Chapter continued on page 250



Joy Axivane Fans create air curtain for world's largest "Doorless-Door" at PAN AM Terminal

An eighty-nine foot wide air curtain seals out the weather at the Pan American Passenger Terminal at Idlewild. This transparent entrance provides an unobstructed sweep of the entire terminal, and contributes to the effect of the "floating" four-acre canopy roof.

Six Joy vaneaxial type fans supply up to 600,000 cubic feet of air per minute to make this architectural masterpiece possible. Located on the roof, they are controlled automatically to supply the required amount of warm or cool air for an air curtain 89 feet wide, ten feet high and seven feet deep. When the curtain air is heated, (whenever outside temperatures drop below 65°) thermistor elements register any deflection in the curtain, and the guide vanes automatically change the angle of air flow to correct the deflection. In warm weather, a second control system which is actuated by elements sensitive to wind direction and velocity control these

Joy Axivane Fans are engineered to operate with complete dependability in the pressure and volume ranges needed for such applications as the Pan American Terminal's unusual doorway. Whenever you have a ventilating problem, it will pay you to consult with your Joy representative. Joy Axivane Fans will provide superior service in any installation. For complete details on these fans, write for Bulletin 2560-98.

AIR MOVING EQUIPMENT FOR











Joy Manufacturing Company Oliver Building, Pittsburgh 22, Pa.

In Canada: Joy Manufacturing Company (Canada) Limited, Galt, Ontario



A TRIUMPH OF LIGHTING FIXTURE DESIGN FROM DAY-BRITE

Introducing TIARA

for offices, stores and schools

Just 3 1/4" slim! New Day-Brite TIARA provides a clean, modern look never before possible with a surface-mounted unit.

A distinctive glow around its waferthin frame softens brightness for high visual comfort, and gives the fixture a luminous floating appearance. Pure enchantment for any interior!

Precision *Pyramid* lenses create additional ceiling interest. There is no noticeable variation in sur-

face brightness . . . no hot spots. Lighting quality is definitely Day-Brite.

For those who want the very finest, it's new Day-Brite TIARA . . . the crowning achievement in lighting fixture design. For complete information, contact your Day-Brite representative or write for free 8-page TIARA booklet. Day-Brite Lighting, Inc., 6260 N. Broadway, St. Louis 15, Mo., and Santa Clara, Calif. In Canada: Amalgamated Electric Corp., Ltd., Toronto 6, Ont.

DAY-BRITE

NATION'S LARGEST MANUFACTURER OF COMMERCIAL AND INDUSTRIAL LIGHTING EQUIPMENT

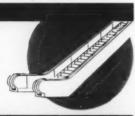
Lens by Holophane Co., Inc.



Above a portion of the 820' x 50' TWA hangar access door. The complete installation consists of four banks of horizontal sliding doors, three panels to a bank. Peelle also manufactured and installed doors for the Pan American Jetliner hangar and Lockheed hangar.

PEELLE MOTORSTAIRS

Peelle manufactured and installed the motorstairs in the Terminal Building. In the PORT OF NEW YORK AUTHORITY BUS TERMINAL, when expansion is completed, 41 Peelle Motorstairs will expedite great crowds.



PEELLE FREIGHT ELEVATOR DOORS AND CAR GATES

Motorized and manual installations. INTERNATIONAL AIRPORT, TWA Hangar 12, Arrival and Airline Wing Bldg., Hangar 8, American Airlines Passenger Terminal, Pan-American Airways, Brass Rail Restaurant Golden Door • NEWARK AIRPORT — Passenger Terminal • UNION FRT TERMINAL, Station 3 • SPRING ST. BUILDING, Frt Station #2 • PCRT OF NEW YORK AUTHORITY, Elevators 11, 12, 19 & 24 • INLAND TERMINAL.



DUMBWAITER DOORS & PASS WINDOWS & OTHERS

INTERNATIONAL AIRPORT, Air France Compaigne, Eastern Air Lines, International Hotel, Swiss Air Transport, Hangar #15 * BUS TERMINAL (trash chute doors) * GEORGE WASHINGTON BRIDGE, Damper operating mechanism in ventilation building.



PEELLE PLANNING SERVICE

Without obligation, Peelle Engineers will suggest the most advantageous use of its products in new or existing installations. Call or write.



The Record Reports continued from page 246

of the American Institute of Interior Designers and the New York Herald Tribune— Seventh Regiment Armory, New York City

7-10 Western Building Industries
Exposition, sponsored by Associations of the Western
Building Industries Council—
Great Western Exhibit Center,
Los Angeles

9-18 8th Advanced School for Home Builders, co-sponsored by Univ. of Illinois Small Homes Council-Building Research Council and the National Association of Home Builders, in cooperation win the Division of University Extension—University of Illinois campus, Ur-

10-12 National Conference on Standards, American Standards Association—Rice Hotel, Houston

bana, Ill.

10-13 1961 National Planning Conference, Community Planning Association of Canada; theme: "Regional Planning"—Nova Scotian Hotel, Halifax

10-14 Annual meeting, American Council of Independent Laboratories, Inc.—Sheraton Hotel. Philadelphia

12-16 Annual conference, National Trust for Historic Preservation—Waldorf-Astoria Hotel, New York City

15-19 1961 convention, the Prestressed Concrete Institute; theme: "New Opportunities in Structural Design"—Cosmopolitan and Brown Palace hotels. Denver

16-20 Annual convention, American Society of Civil Engineers; theme: "Metropolis-1980" —Hotel Statler Hilton, New York

16-20 1961 National Safety Congress, annual convention of the National Safety Council—Chicago

23-27 National Metal Exposition— Detroit

November __

1-3 14th regional meeting, American Concrete Institute—Dink-ler-Tutweiler Hotel, Birmingham, Ala.

continued on page 258



Better walls start with better mortar. To be sure of top quality, specify mortar made with masonry cement. This cement is a blend of materials that gives a good balance of the desirable properties in mortar. Except for sand and water, everything is delivered in one bag. Mixing calls for no special skills . . . when workability is right, water content is right. It makes a "fat" mortar that promotes better workmanship. Tighter joints, uniform color and dependable strength are assured. For the best in wall performance with any masonry unit—concrete, brick, tile, stone or glass—architects everywhere specify masonry cement. Write for free literature. (U.S. and Canada only.)

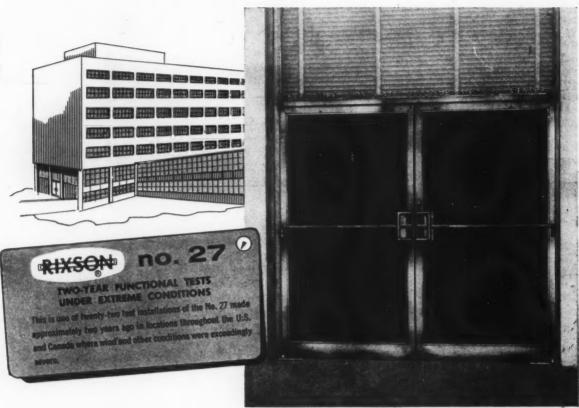
PLAN TO THE TRANSPORT HORIZON HOMES Program.

PORTLAND CEMENT ASSOCIATION Dept. A9-8, 33 W. Grand Avenue, Chicago 10, Illinois

A national organization to improve and extend the uses of portland cement and concrete

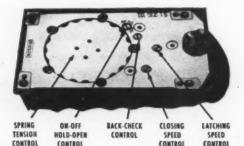
No. 27 CLOSER solves door control problem at New York Univ. Medical Center in two-year test installation

"The first door control to stop glass breakage caused by strong East River winds..." says P. W. Barton, CONSTRUCTION COORDINATOR



Skidmore, Owings and Merrill, Architects

A COMPLETELY NEW DOOR CLOSER DESIGN no. 27 offset hung no. 28 center hung



These New York University Medical Center south entrance doors are exposed to powerful East River winds which blow from both directions. Before the No. 27 closers were installed there was frequent glass breakage and closer damage.

The back-check of the No. 27 closers, locally adjusted for firm resistance, together with the positive dead stop, now keep the opening action of these doors under constant control. The closing action of the doors is under dependable hydraulic check with closing and latching speeds each independently adjusted to cope with the wind conditions.

Complete literature and details on the No. 27 offset hung and No. 28 center hung closers will be mailed on request.



9100 west belmont ave. franklin park, illinois

CANADIAN PLANT: 43 Racine Road (Rexdale P.O.) Toronto, Ont.

PATE TOSTANIA

glare-reducing safety glass

By shutting out glare, new TWI-LITE introduces freedom of glass design without concern for expensive overhangs or "window-dressing." Clear glass transmits 85% of solar energy. TWI-LITE "purges" glare from transmitted light by absorbing solar energy 60% - 80% more efficiently than clear glass. TWI-LITE's shadings of grey tone offer a choice of 28% or 9% transmission strength. Excess energy is re-radiated—half outward, half inward—below the vision line. This subdued light transmission provides a pleasantly illumined environment with unobstructed visibility at all times.

Besides eliminating the substantial initial cost of shading devices, TWI-LITE does away with

the accompanying nuisance costs of periodic cleaning, repair and replacement of drapes, shades and blinds. And, since less heat energy penetrates TWI-LITE, air conditioning requirements can be lowered. Moreover, TWI-LITE's shatter-resistancy—intrinsic to all laminated safety glass—effects savings in decreased breakage and replacement labor. Color stability is guaranteed against fading.

As a functional visual element, glare-free TWI-LITE adds a salable feature to property, increasing its market value. Mail the coupon now for our free brochure on this exciting design development in architectural glass. TWI-LITE is available in sizes up to 60 x 120 at glass distributors everywhere.



Beauty and function . . . tomorrow's glass today!

Other unique Amerada products available at leading glass distributor outlets



Acousta-Pane*

Revolutionary new concept of sound control through architectural glass...reduces sound penetration as much as 66%.



Comfor-Lite*

Hundreds of minute louvers hermetically sealed under glass screen out heat and glare without obstructing visibility.

*Trademark

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Gentlemen: Please send me your free brochure on new glarereducing TWI-LITE at no obligation.

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Include information on Acousta-Pane Comfor-Lite

It moves

... powered and controlled by Westinghouse

Press a button—an indoor auditorium becomes an open air stadium in 2½ minutes—and behind that button is an unparalleled story of engineering and construction cooperation.

Architectural and engineering teamwork has given Pittsburgh the world's first movable roof auditorium. This versatile structure adds to the city's renaissance, in one building, a 14,000 seat sports arena, a convention hall, open air amphitheater, and an exhibit center. Westinghouse products bring the facilities to life, give precision control for the delicate manipulation of six 300-ton movable leaves.

Outwardly, the new auditorium is a 400' stainless steel

.



umbrella, suspended from a space frame cantilevered from the ground. That is one outstanding construction teamwork story.

Inside, coordination culminates in a control console located high above the seating area. From this station the

Construction Motivators: The Authority & Industry l to r seated: Judge A. L. Wolk, Vice Chmn.; N. Stabile, Sec'ry Treas.; W. B. McFall, Chairman; H. R. Edelman, Jr., Pres. Heyl & Patterson; and D. J. McDonald, Vice Chmn. standing: C. B. Jansen, Member; J. E. Payne, V. P. Westinghouse; and Edw. Fraher, Exec. Director



J-94176-2





The six movable roof leaves are driven by Westinghouse right angle gearmotors, five to each leaf. Photo shows base of one of the movable leaves with the acoustic ceiling panels removed.



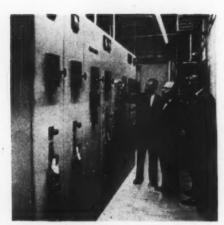
O. M. Newman, Heyl & Patterson, and Edward Cohen, Ammann & Whitney, discuss roof electrical drive with C. G. Falkenstein, Westinghouse, kneeling in front of main roof reactor control cabinet.



unique movable roof drive system is activated. An AC reactor control scheme keeps all six movable leaves in step throughout open and close cycles. Each leaf is driven by Westinghouse Moduline® gearmotors, with opposite leaves being operated in pairs.

Close cooperation among architects, engineers, owner, contractors and Westinghouse helped to provide a system flexible enough to serve varying building demands, with the high degree of electrical reliability required.

For more complete information on the electrical aspects of construction, write to: Westinghouse, P. O. Box 868, Pittsburgh 30, Pennsylvania.



5KV metal-clad switchgear contains a tie-breaker to provide emergency switching between two incoming 4160-V lines. Seen here: N. J. Grady, V. P., Ernst, C. J. Long, and A. B. Janaszek.



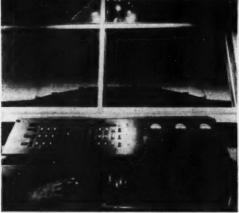
Checking construction progress are C. J. Long and F. J. Sarknas, Westinghouse. In background, 1500 kva power center supplies power for building auxiliary and air conditioning compressor motors.



Westinghouse Motor Control Center located in the Mechanical Room centralizes auxiliary motor controls. Discussing installation advantages are H. R. Helvenston, C. J. Long and N. J. Grady.



Three 125 hp Lifeline A motors drive freon compressors to chill brine supply for ice rink piping. Seen here are P. F. Schad, Limbach, and C. G. Falkenstein, Westinghouse.



Operator's view from roof control console high above the spectator area. Visible through the glass front is the juncture of the first two movable leaves of the roof.



One of main power transformers rated 2500 kva at 11.6 kv to 4160 volts. Discussing the power supply are C. J. Long, Electrical Engineer, M. A. Geffel, Ernst, and A. B. Janaszek, Westinghouse.

Builder: Public Auditorium Authority of Pittsburgh & Allegheny County: Resident Engineer & Supt. of Construction: H. Rey Helvenston

Architects: Mitchell & Ritchey, Pittsburgh
Roof Designers & Engineers: Ammann & Whitney, N.Y.
Electrical Engineer: Carl J. Long & Associates, Pittsburgh
Mechanical Engineer: John Mullin & Associates, Pittsburgh
General Contractor: Dick Corporation, Large, Pa.
Electrical Contractor: E. C. Ernst, Inc., Pittsburgh
Mechanical Contractor: Limbach Company, Pittsburgh

Drive System Contractor: Heyl & Patterson, Inc., Pittsburgh





Another Westinghouse power center, this 300 kva ASL dry type supplies lighting and auxiliary power. Discussing its component parts are C. J. Long, A. B. Janaszek, M. A. Geffel and Albert Simon, Ernst.



Type M Electric Stairway transports 8,000 persons /hr. Top to bottom: E. R. Gallagher, supervising architect; H. R. Helvenston, resident engineer; and A. Simmonds, Westinghouse Elevator.



Fan room equipped with series 8000 Air-Foil centrifugal fan and air conditioning coils. W. Y. Humphreys, Westinghouse, with John Mullin, Consulting Engineer, air conditioning and ventilation system designer.



Westinghouse mercury vapor parking area and floodlighting are operated from this remote control panel located in the mechanical room. M. A. Geffel, Ernst, tests lighting circuits.

There's a "Powerful Difference" in KINNEAR **Motor Operated Rolling Doors!**





The Kinnear Motor Operator is NEW in every detail -- AND BUILT EXCLUSIVELY FOR DOOR SERVICE

Kinnear's new Power Operator for rolling doors is a specific-purpose unit. All features are uniquely integrated for door control that combines highest efficiency and durability.

Its reserve power assures smooth action that defies wind pressure, drifted snow, collected grime, or extra years of usage.

Special thermal protection prevents overload troubles - the motor cuts out before damage can occur.

New worm gearing takes "stop and go" action in its stride!

A new centrifugal clutch transmits motor action to the door without shock, increasing protection against motor stalls and overload damage.

The new power unit permits easy removal for servicing without disturbing the auxiliary hand-chain operator.

Seven sizes fit all door needs without costly "over-powering." Can be installed vertically or horizontally . . bracket-mounted on the door or wall, or for through-the-wall operation.

Kinnear originated the door with the curtain of interlocking slats that opens upward, coils compactly overhead, and saves floor, wall and ceiling space. This new Power Operator brings the basic efficiency of Kinnear Doors to a new high in dependable, push-button convenience. Write for complete information on Kinnear Rolling Doors and Power Operators.

Manufacturing Company



FACTORIES:

1860-80 Fields Avenue, Columbus 16, Ohio 1742 Yosemite Ave., San Francisco 24, Calif. Offices and Representatives in All Principal Cities

The Record Reports continued from page 250

- National Retail Lumber Dealers Association Eighth Annual **Building Materials Exposition** -McCormick Place Exhibit Hall. Chicago
- 46th edition, National Hotel Exposition-The Coliseum. New York City
- 1961 Conference and Atom Fair atomic exhibit, sponsored by the Atomic Industrial Forum and the American Nuclear Society-Conrad Hilton, Chicago
- 12-15 Annual meeting, Air Conditioning and Refrigeration Institute—The Homestead, Hot Springs, Va.
- 14-16 Building Research Institute 1961 Fall Conferences-Shoreham Hotel, Washington, D.C.

Office Notes

Offices Opened_

Henningson, Durham & Richardson has opened an office in Charlotte. N.C. Robert Southworth has been named manager of the new office of this engineering and architectural firm which also has offices in Omaha. Colorado Springs, Phoenix and Dal-

New Firms, Firm Changes_

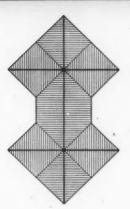
Deane M. Truesdell, Architect, Flint, Mich., and Ellis, Arndt & Associates, Consulting Engineers and Landscape Architects, Flint, Mich., announce the formation of the firm of Ellis, Arndt & Truesdell. The address is 614 MacArthur Bldg., 114 W. Union St., Flint.

Serge P. Petroff, director of architecture for the planning-architecture-engineering firm of Charles Luckman Associates, has been elected a vice president of the organiza-

Herman G. Pietrolungora announces the formation of his new firm at 1305 Heeney Ave., Johnstown,

The firm name of L. W. Davidson & Associates, 3142 Wilshire Blvd., Los Angeles, has been changed to Davidson and Maurer Incorporated. Architects and Engineers.

With the retirement from business continued on page 264



STARS OF TERNE ...

FORM COLOR FUNCTION

The durability of Terne roofing is almost unique—its measurement of performance is in generations rather than years. This time-tested metal has other notable advantages . . . among these are a natural affinity for color and linear modulation which permits any visibly significant roof to become a basic component in design, a positive factor in architectural expression. And the cost can be surprisingly moderate. May we send you detailed literature?



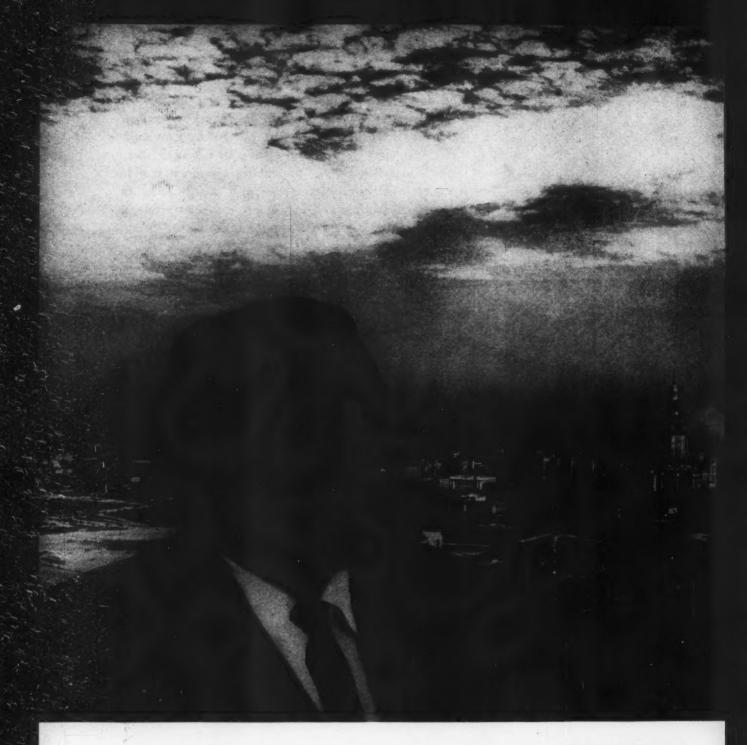




OLLANSBEE STEEL CORPORATION

Follansbee, West Virginia

Foliansbee is the world's pioneer producer of seamless terms roofing



"THE FIREPROOFING QUALITY OF GYPSUM IS IMPORTANT TO THIS GROWING CITY"...says Frank J. Nicolosi, Plastering Contractor, Cleveland, Ohio. "The trouble-free quality of Bestwall Lath and Plaster products is

a valuable aid in meeting demanding specifications. Especially notable are Satin Spar and Sunflower plasters that never 'bounce back'." Bestwall Gypsum Company, Ardmore/Pa.



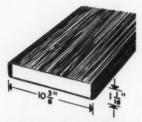


FREMONT UNION HIGH SCHOOL, SURNYMAE, GALIPON ARCHITECTS: MASTEN, MURD AND GWATHMEY BUILDER: FRIETAS CONSTRUCTION COMPANY



wood folding partitions

give sturdy beauty to space control



STABILIZED WOOD CORE of each panel is laminated with water-resistant plastic glue and faced with genuine wood veneer.

PELLA WOOD FOLDING PARTITIONS are handsome enough for classroom, auditorium, church or club—sturdy enough for recreation halls and other active areas. The play of light and shadow on any one of six genuine wood veneer grains can add interest and warmth to your building interiors. The stabilized wood core of each panel plus patented "live-action" spring hinging maintains panel alignment, assures years of trouble-free service. Even the largest units operate with surprising ease. Massive 103/8" x 11/16" panels. Available for any opening width and any height to 20/1". Call your PELLA distributor in the Yellow Pages for specifications and literature. ROLSCREEN COMPANY, PELLA, IOWA.

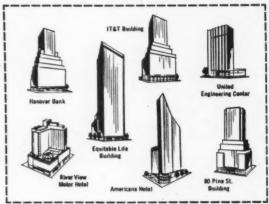
6 Fine Wood Veneers: ASH • OAK • PHILIPPINE MAHOGANY AMERICAN WALNUT • BIRCH • PINE



Kohler plumbing went into 7 out of 10 new major buildings in New York City

Quite a compliment. But not surprising. We could rattle off a long, long list of Kohler installations going up, or completed, in N.Y. The point is that the number of architects and contractors who rely on Kohler gets bigger by the day. They find Kohler precision manufacturing makes for easier, faster, neater installation. Kohler chrome plated, All-Brass fittings with the Valvet have demonstrated ability to stand up under the most demanding use with minimum maintenance, maximum efficiency.

These are some of the reasons builders in New York, and from coast to coast, find it pays to specify Kohler. Your nearby Kohler distributor will tell you more reasons.



KOHLER OF KOHLER

Kohler Co., Estab. 1873 . Kohler, Wisconsin

ENAMELED IRON AND VITREOUS CHINA PLUMBING FIXTURES-ALL-BRASS FITTINGS-ELECTRIC PLANTS-AIR-COOLED ENGINES-PRECISION CONTROLS





is of extruded aluminum. Exclusive nylon GLIDE-LOCK® permits locking M-P window in 10 positions.

Whenever you place design emphasis on glass division, PELLA WOOD MULTI-PURPOSE WINDOWS instantly meet the challenge. In this case, M-P vent and fixed units form an 8-window pattern that pleasingly repeats itself. In all, 15 vent or fixed and 5 fixed picture sizes put hundreds of combinations at your pencil tip. For variety, WOOD M-P WINDOWS may be arranged as awning, hopper or casement units. Even with expansive glass areas, these handsome wood windows contribute to the efficiency of both heating and air conditioning systems. Screens and storm panels are self-storing. Roto operators are also available. Full specifications in SWEET'S or consult the classified telephone directory for the name of the nearest U.S. or Canadian distributor. ROLSCREEN COMPANY, PELLA, IOWA.



New York International Airport (Idlewild)

200 WEINMAN PUMPS HANDLE MANY WATER NEEDS AT NEW YORK'S NEW INTERNATIONAL AIRPORT COMPLEX

Day after day, 200 Weinman Pumps quietly and efficiently move a Niagara of water needed to operate many buildings in the vast complex at International Airport. A volume of water equal to a medium-sized city is required to heat, condition air, move sewage and melt snow.

It was not by chance that, in so many cases, Weinman Pumps were specified to meet the water requirements of this jet-age facility. Airlines and hotels sell service. Comfort and convenience are vital parts of this service. That's why air travel is so popular. And fast, dependable service is why Weinman Pumps are so often specified.

At International, Weinman Pumps perform behind the scenes . . . 24 hours a day . . . every day . . . in each of these buildings of the complex:

- · American Airlines Terminal · Eastern Airlines Terminal
- · International Hotel · Pan American Airways Terminal

· United Airlines Terminal

and Weinman Pumps are ready to give the same dependable service in the soon-to-be-completed Trans-World Air-

Whether you design a single building or an intricate complex like International, there's a right solution to your water circulation problems.

Consult your Weinman Pump Specialist . . he's in the Yellow Pages. Or, if you prefer, write us direct . . .







The Record Reports continued from page 258

of Mr. Carl R. Parker and Mr. Charles S. Riley, the firm of Olmsted Brothers, Landscape Architects, Brookline, Mass., was dissolved and reorganized into Olmsted Associates, Landscape Architects. The four partners are E.C. Whiting, W.B. Marquis, A.P. Richardson and J.G. Hudak.

Mr. Edward DePina has been appointed regional manager for the Albany office of John Clarkeson, Consulting Engineer. Mr. DePina succeeds the late Wilmer A. Warrick.

Hans A. Friedman has announced the formation of a new architectural firm, Friedman, Omarzu, Zion & Lundgoot, Offices are at 150 North Wacker Drive, Chicago. Mr. Friedman has been chief architect and head of the architectural department of DeLeuw Cather & Company, Consulting Engineers, with whom he has been associated for nine years.

Eleanor Larrabee and Eric Joseph Pick have become associates of Warner, Burns, Toan, Lunde, Architects, New York City.

New Addresses __

Walter Hiram Frick, Consulting Architectural Engineer, and Frick & Sweeney, Consulting Architectural Engineers, 330 S. Evaline St., Pittsburgh, Pa.

Henningson-Durham & Richardson, 3555 Farnam St., Omaha, Neb.

Warner, Burns, Toan, Lunde, Architects, 724 5th Ave., New York, N.Y.

N.B.F.U. Grant Provides A.I.A. Student Scholarships

Seven scholarships totalling \$4500 have been awarded students of architecture by the American Institute of Architects through a grant by the National Board of Fire Underwriters.

The recipients were chosen by the Institute's committee on awards and scholarships from among candidates nominated by the deans of accredited architectural schools. They are: Donald Earl Hunter, Oak Park, Ill., University of Kansas-\$600; Donald William MacDonald, Norman, Okla., University of Oklahoma-\$500; Edward Davis Kelbish, Flashing, N.Y. Pratt Institute-\$500: Michael Duane Maher, Seattle, Wash., Univer-





Pella wood casement windows

join into bays of any angle



ROLSCREEN®

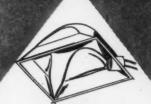
on PELLA WOOD CASE-MENT WINDOWS is the original inside screen that rolls down, up and out of sight.

Joining mullions for angular or circular bays can be made in any angle. 30°, 45° and 60° mullions are standard items. The design versatility of PELLA WOOD CASEMENT WINDOWS is expressed here in the bow arrangement and its harmony with the PELLA WOOD TWINLITE® WINDOWS in the rest of the house. Features like self-storing screens (PELLA WOOD CASEMENTS feature the famous ROLSCREEN® that rolls up like a window shade) and storm sash-plus muntin bars that snap in and out for easy painting and glass cleaning-enable you to combine traditional styles with the most advanced window conveniences. For maximum design freedom, PELLA WOOD CASE-MENTS include 18 ventilating units up to 24" x 68" glass size and an exceptional range of fixed units. For full specifications, consult sweet's or your nearest U. S. or Canadian Pella distributor in your classified telephone directory. ROLSCREEN COMPANY, PELLA, IOWA.

PELLA ALSO MAKES QUALITY WOOD MULTI-PURPOSE WINDOWS, WOOD FOLDING DOORS AND PARTITIONS, ROLSCREENS AND WOOD SLIDING GLASS DOORS

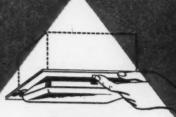


No Light Leak Frame and Trim
Reflector interlocks inside trim
eliminating all light leaks. Trim
need never be removed from ceiling.



Full Reflector

One piece—full size. Reflects maximum light. Alzak or Polspec finish.



Push Latch

Releases glass easily without tools for relamping and cleaning.



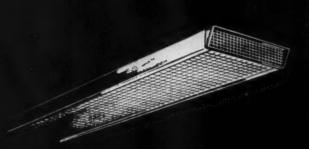
Installs Quick and Easy
Housing completely assembled. No
screws or nails needed with self-locking
bar hangers and finger-tip adjustment.

















MART

Golden Triangle Motor Hotel, Norfolk, Va. Architect: Anthony F. Musolino. Consulting Architects: Morris Lapidus, Kornblath, Harle & Liebman.

Consulting Mechanical Engineer: Counts & Lawrence. Mechanical Contractor: Hicks & Ingle:



Guests dial the weather all year 'round in this fabulous hotel-motel equipped with Crane Fan Coil units.

Personalized comfort in any season. That's what Norfolk's luxurious Golden Triangle hotel-motel gives guests in each of its 400 rooms, and saves money too.

Crane Fan Coil Units heat, cool, take little space. Never interfere with radio or television reception. They're truly economical.

Cost less to install because there is no expensive ductwork needed.

Each unit contains a heat transfer coil, motor and from one to four quiet blower fans. It's the cleanest comfort there is. Hot water is used for winter heating...chilled water for summer cooling. You can turn them

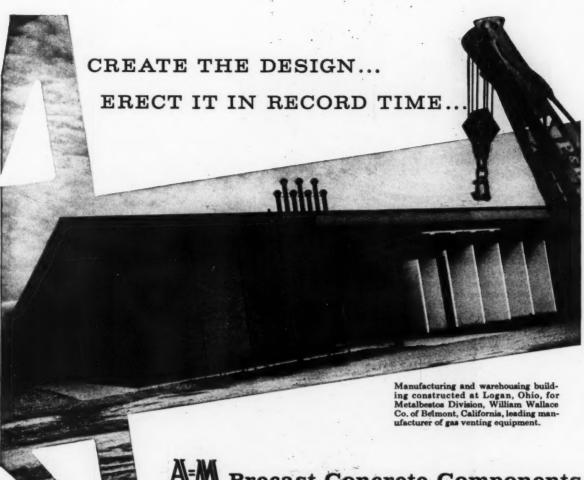
off in unoccupied rooms...to keep costs down.

Smartly styled Crane Fan Coil Units can be installed either recessed or free standing. For full details see your regular contractor or your Crane representative. Or write direct to Crane Co., Plumbing-Heating-Air Conditioning Group, Box 780, Johnstown, Penna.

AT THE
HEART
OF HOME AND
INDUSTRY



VALVES AND PIPING ELECTRONIC CONTROLS PLUMBING HEATING - AIR CONDITIONING



A Precast Concrete Components

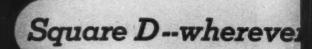
American-Marietta's precasting and prestressing factories supply such structural units as concrete wall panels, roof and floor systems, beams, columns and foundation grade beams. With these components it is possible to provide an infinite variety of architectural designs-and construct buildings in record time.

Architects, builders and owners are impressed with low original costs and maintenance savings of A-M precast concrete building units. For complete information contact your nearest American-Marietta office or write direct to:



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GENERAL OFFICES: AMERICAN-MARIETTA BUILDING 101 EAST ONTARIO STREET, CHICAGO II, ILLINOIS, PHONE: WHITEHALL 4-5400



COBO HALL, world's largest, occupies 16 acres of Detroit's civic center. It provides 400,000 square feet of exhibit area. Its 10,000 KVA of power is distributed and controlled by Square D equipment which includes 11 substations (one of them is shown at right), 37 control centers, 28 switchboards, 550 panelboards, 19,000 feet of lay-in duct.



EL SAN JUAN INTERCONTINENTAL

One of the Caribbean's most beautiful resort hotels. Square D equipment distributes and controls the electricity throughout this modern structure. ABOVE-Square D control center centralizes all motor control for air-conditioning lobby, offices, dining rooms, night club and casino. Square D feed-in duct brings power from substation.

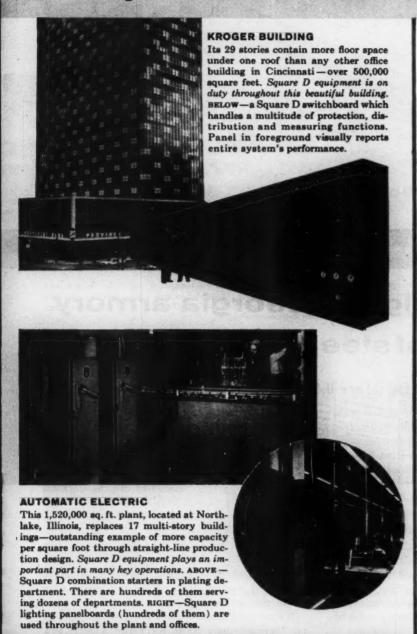




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electricity is distributed and controlled



A Complete LINE
OF ELECTRICAL
DISTRIBUTION
AND CONTROL
EQUIPMENT

ADJUSTABLE SPEED DRIVES **BUSWAYS & WIREWAYS** CIRCUIT BREAKERS **CONTROL CENTERS** CRANE & HOIST CONTROL DISTRIBUTION SWITCHBOARDS **ELECTRIC TRUCK CONTROL** HIGH VOLTAGE CONTROL LAUNDRY CONTROL LIFTING MAGNETS LIGHTING AND POWER PANELBOARDS LIMIT AND FOOT SWITCHES MACHINE TOOL CONTROL MAGNETIC BRAKES METER MOUNTINGS MOTOR STARTERS PRESS CONTROL PRESSURE, FLOAT, & VACUUM SWITCHES PUSHBUTTONS **RELAYS AND CONTACTORS** RESISTORS SAFETY SWITCHES SERVICE ENTRANCE EQUIPMENT STAGE DIMMERBOARDS STATIC CONTROL STEEL MILL CONTROL SWITCHGEAR & UNIT SUBSTATIONS SYNCHRONOUS MOTOR CONTROL TERMINAL BLOCKS TEXTILE MACHINE CONTROL TIMERS **VOLTAGE TESTERS**

EXECUTIVE OFFICES . PARK RIDGE, ILLINOIS

WELDER CONTROL



Plastic design of Georgia armory cuts weight of steel frame 15 per cent

Rigid-frame bents spanning 120 feet set new U.S. record for longest plastic-designed clear span

The Georgia National Guard Armory in Savannah, scheduled for completion late this summer, includes three steel-framed buildings linked by covered walkways. The central structure contains two headquarters and administration wings, and a column-free drill hall which will seat 5,000 when used as a sports arena. The two flanking buildings are each large enough to hold four company-size units.

Frames are outside of buildings

Seven 120-ft-long, rigid-frame bents, 20 feet center-to-center, span the drill hall. Clear height is 30 feet. Each of the 15-ton bents was fabricated from 33 WF 152 lb sections, giving a depth-span ratio of 1:44. Eight-inch purlins are framed into the bottom of the wide-flange sections, to expose the major portion of the frame outside the building.

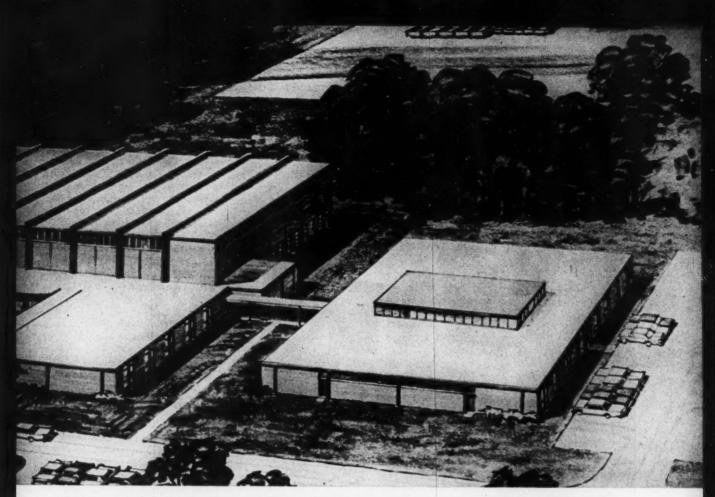
The architects also derived an aesthetic as well as a functional use of the steel frame in the flanking buildings by exposing the columns. These support 12-inch channels which act as a fascia, and 12-inch light beams which frame the roof.

15 per cent savings in steel

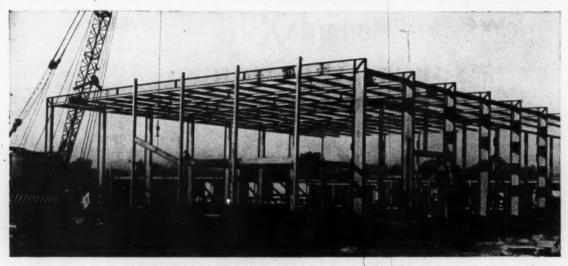
By using plastic design, the architects were able to reduce by 15 per cent the amount of structural steel needed to frame the buildings, as compared with the requirements necessary under the elastic method.

Steel design by the plastic method is a new development in design technique, and generally results in a more efficient structure with less steel required to achieve the same strength. It also saves on the cost of engineering, since it demands less engineering time on the part of the designers.

If you would like a copy of a 10-page AISC booklet on "Supplementary Rules for Plastic Design and Fabrication and Rolled Beam Properties for Plastic Design," write to us at Bethlehem, Pa.



Steel is used extensively throughout the Georgia National Guard Armory, not only as a structural system, but also as frames for windows, canopies, and glass curtain walls. Architects and Engineers: Thomas-Driscoll-Hutton. General Contractor: Hugh Jackson. Steel Fabricator: Owen Steel Company. Steel Erector: Steel Erectors, Inc. The major portion of the 310 tons of structural and miscellaneous steel was supplied by Bethlehem.



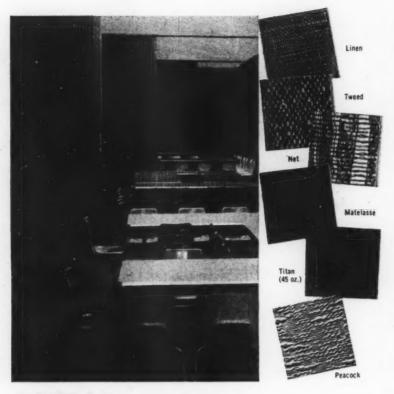
Light weight of plastic-designed steel frame minimized difficulties created by poor subsoil conditions and led to economies in foundation construction.



BETHLEHEM STEEL COMPANY, BETHLEHEM, PA. Export Sales: Bethlehem Steel Export Corporation

BETHLEHEM STEEL





NEW SUPER— Soundguard X-8

FIRST in SOUND REDUCTION and FIRST in BEAUTY

The new Super-Soundguard Foldoor X-8 provides the greatest sound reduction of any steel frame single folding partition in the 8-½" profile class. Average attenuation for 9 frequencies is 35.8 db. Tested to ASTM Std. E90-55 by Geiger and Hamme of Ann Arbor, Michigan.

Beauty is inherent in all Foldoor installations. Decorator fabrics available in a wide selection of colors and textures.

A dramatic new concept in customized grillework for inestitutions, offices, homes.
Sculptured styrene, factory fabricated in a number of complete systems. . . ready to install. timitless design possibilities — space dividers, screens, door accents, etc. Available in metallic or regular colors. For interiors and exteriors.

Practical and handsome, Foldoor fabrics meet the most rigid fire codes, shrug off wear, stay bright and beautiful for years to come.

See your Foldoor distributor for Super-Soundguard specifications, sound test results, and fabric samples—or mail this coupon.

HOLCOMB & HOKE MFG. CO., INC. 1545 Van Buren Street Indianapolis 7, Indiana Dept. B35	FOL[Door
Please send complete SUPER- SOUNDGUARD Specifications	ILIGRILLE D	Have job in planning, please call
NAME	· · · · · · · · · · · · · · · · · · ·	
FIRM		
ADDRESS		
CITY	STATE	

The Record Reports continued from page 264

sity of Washington—\$800; John Anton Berg, Tempe, Ariz., Arizona State University—\$500; Gary D. Forbush, Salt Lake City, Utah, University of Utah—\$800; and Fred Maxwell Babcock, Pocatello, Idaho, University of Utah—\$800.

The National Board makes this, the eighth such grant for scholarships, in recognition of the importance of the architect in the proper design of buildings.

Kansas State Awards First Master of Regional Planning

Kansas State University has awarded its first master of regional planning to George P. Miller. He is the first to complete requirements for the degree, which was authorized by the Kansas Board of Regents in 1959. The degree is offered on an interdepartmental basis but it is coordinated by the department of architecture and allied arts.

"The degree is unique to K-State in two respects," according to Murlin R. Hodgell, associate professor of architecture and regional planning and major adviser for the graduate degree. "It requires two years of graduate work beyond the bachelor's degree (most master's degrees require only one year), and it is a change from the specialization of many master programs. The regional planning degree consists of a series of broadening courses as well as a core curriculum. The professional program develops from this broad base."

The interdepartmental nature of the degree permits majors to receive their undergraduate degrees in architecture, civil or architectural engineering, landscape design or in related social sciences. They also study in these areas, adjusting their programs individually to help overcome undergraduate deficiencies for planning.

Program policies are decided by an interdepartmental committee. The chairman of the committee is the head of the department of architecture and allied arts because much of the core curriculum is taught in that department.

The degree is general because planning involves a coordination of continued on page 278



LEE MEMORIAL METHODIST CHURCH, NORWICH, CONN.

A specially designed continuous Wasco Skydome surmounts the deeply pitched roof of this church sanctuary, enabling the congregation to see the open sky above while preserving an atmosphere for quiet contemplation below. The side aisles are enclosed by solid brick walls, yet receive evenly diffused, glare-free daylight through standard self-flashing Wasco Skydomes — molded of Acrylite®, the shatterproof, weathering plastic. Wasco welcomes other opportunities to combine daylighting with advanced architectural ideas. Write our Custom Engineering Department.

Architects; John Richard Hollman and Robert E. Wilson, Jr., Februardh, Man.



WASCO PRODUCTS DEPARTMENT

CYANAMID

AMERICAN CYANAMID COMPANY 5 BAY STATE RD., CAMBRIDGE 38, MASS.



NEW! Pilot-lighted directory on a new style G-E Master Selector Switch shows instantly which of 12 circuits are ON. Also has tiny locator light (permanently ON) that permits reading the directory and operating the switch in the dark.

From General Electric-new Remoteincrease lighting convenience in

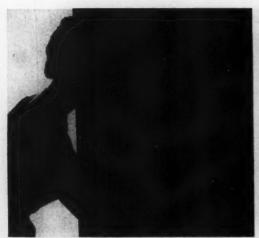
In homes, you provide step-saving convenience when you specify this modern low-voltage control system. All important lights can be controlled from a single location; and additional switches per light can be installed at surprisingly low cost.

In commercial buildings, G-E Remote-Control switching can reduce installation costs, make it easier to relocate office partitions, help lower the

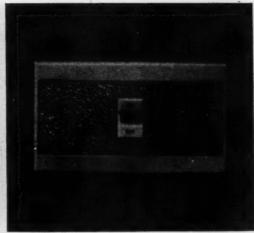
cost of operating and maintaining lighting circuits

And now, with this new, more complete line of General Electric switches, you have greater flexi bility than ever before in designing a remote control system to your specific needs.

There's a new standard, push-button G-I Remote-Control wall switch, well marked for Or and OFF - plus a locking type - plus a trigge



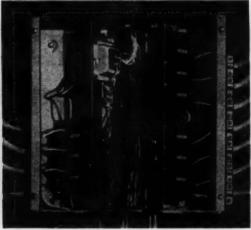
NEW! Switches that are easy to find in the dark. Now G-E Remote-Control wall switches are available with or without built-in locator lights.



NEW! Switches with built-in red pilot light. This new type of G-E Remote-Control switch is just the thing for controlling "hidden" lights.



NEW! Trigger and locking types.
If your customers prefer an up-and-down "trigger" to the standard G-E Remote-Control push button, they can have it. You can suggest the locking type to prevent children from operating dangerous power tools



NEW! "Plug-in" relay box. Provides quiet operation, easier tracing and changing of circuits if needed. It impresses customers—simplifies your wiring. A bus bar connects relays to line voltage, automatically, as they're plugged in — to give you a neat, orderly installation.





Control Wiring Switches homes and commercial buildings

type. And each is available non-lighted, locator-lighted, or pilot-lighted.

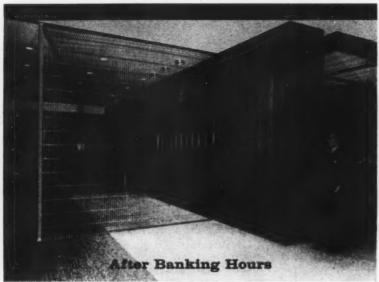
In addition, there's the new pilot-lighted Master Selector Switch — extension switches — plus an interchangeable line.

For detailed information, call your nearest G-E distributor — or write to General Electric Company, Wiring Device Dept., Providence 7, R. I. Progress Is Our Most Important Product





ELECTRIC



Cookson Stainless Side Coiling Grille at Harris Trust and Savings Bank, Chicago, III.

Cookson Stainless Steel Grille Stands Guard for Harris Trust

Skidmore, Owings & Merrill, Architects

Full Protection Plus the Compatible Architectural Look

Attractive, custom-made Cookson Grilles are adaptable to a wide variety of standard and special applications. You can specify a *side-coiling* grille, such as the one shown here, or the *overhead rolling* type; made in stainless steel, galvanized steel or aluminum, with sturdy 5/16" diameter rods joined by pre-

assembled, straight-line connecting links; and you have a selection of five types of operation—from manual to pushbutton automatic.

Exclusive features include pressureapplied bar-end caps that prevent rods from snagging or jamming in guides or brackets; wool-pile inserts on both faces of the guide that eliminate metal-to-metal contact, insure cushion-quiet operation.

And you can count on The Cookson Company for those important innovations of design and development that satisfy the individual requirements of architects, owners and contractors. See our catalog in Sweet's . . . or write for your

personal copy to: The Cookson Company, 1525 Cortland Avenue; San Francisco 10, California. Sales and service in principal cities.



COOKSON

ROLLING DOORS . FIRE DOORS . GRILLES . COUNTER DOORS . COILING PARTITIONS

The Record Reports

engineering, architecture, government, municipal law, economics, sociology, geography, geology and many other fields related to urban life. A planner must recognize the important interrelationships of these areas to his own profession and be concerned for "what, where, when and why," leaving the details of "how" to other professionals.

"The program is building faster than was expected," Professor Hodgell observed. Although no special effort has been made to publicize the regional planning degree, this fall 15 majors are expected and five will take courses as minors.

Mr. Miller, the first to receive the degree, completed his course work in January and since then has been working on his thesis, "The Historical Aspects of Community Development in Kansas".

New Institute Secretary Appointed by R.A.I.C.

The appointment of Maurice G. Holdham of Ottawa, as secretary of the Royal Institute, has been announced by Harland Steele, president of the Royal Architectural Institute of Canada. Mr. Holdham joins Institute headquarters following nearly 33 years of service with the Royal Canadian Air Force. His appointment fills the position left vacant by the death of the late Leonard Fallis.

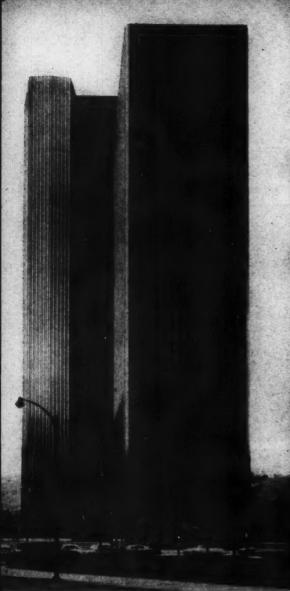
Florida Architecture Wins Graphic Award

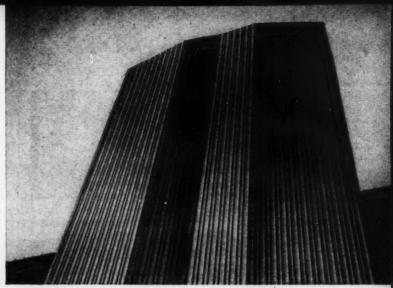
One of three top winners in Mead Papers' second Grand National Award of Excellence in graphic arts competition was Florida Architecture-Architecture International.

Its editorial advisory board composed of prominent architects throughout the state of Florida, the volume was cited for its "incomparable printing and breathtaking color photography" as well as its "excellent translation of ideas within the bounds imposed by the format."

Florida Architecture-Architecture International is produced by McMurray Printers and Printing Inc. for Florida Architecture, Inc.

more news on page 282





From any angle, Nickel Stainless mullions and external service tower give this new 22-story building top-to-bottom beauty. Interesting design note: colored Nickel Stainless strips are used on the service tower for strong vertical emphasis.





Owner: The Equitable Life Assurance Society of the United States . Architects: Harrison & Abramovitz . General contractor: George A. Fuller Co. . Curtain wall fabricator and erector: Limbach Co.

New building keeps full floor space on every level with outside service tower of Nickel Stainless Steel

In Pittsburgh's new Four Gateway Center Building, The Equitable Life Assurance Society of the United States gets 400,000 square feet of virtually uninterrupted floor space. All 22 stories are left uncluttered, thanks to an external service tower that houses all elevators, mechanical and electrical equipment.

The windowless service tower, completely sheathed in Type 302 Nickel Stainless Steel, gives a strong vertical emphasis. This is accentuated by Type 302 Nickel Stainless mullions that run top to bottom on the main building in combination with colored glass.

This new building shows how architects can

use the versatility of Nickel Stainless Steel to effect their own ideas of modern design. Here are four reasons why architects choose this gleaming metal.

Competitive in cost. Its high strength-toweight ratio means that lighter sections can be used, generally at an initial cost competitive with ordinary building metals.

Easy to maintain. Nickel Stainless is probably the easiest of all architectural metals to keep clean. It resists pitting from the atmosphere, and its surface stays so smooth that rainfall alone helps keep it clean.

Lasting good looks. High corrosion resist-

ance means long-lasting beauty for the life of the building. And Nickel Stainless resists unsightly staining from adjacent materials, such as other metals, brick, or mortar.

Easy to fabricate. Nickel Stainless forms and fabricates easily. It punches, shears, and welds readily. New roll-forming methods can often mean important fabrication economies.

More information about Nickel Stainless Steel? Write for the 32-page booklet, "Architectural Uses of the Stainless Steels."

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252'

stressing tendons into one long unit make possible the unique structure of a 48 lane bowling square foot using a concrete roof and support beam prestressed by the Prescon System of post-tensioning. This price includes a partial basement, a mezzanine restaurant, observation The Buccaneer Bowl in Corpus Christi, Texas was constructed at a cost of only \$8.40 per deck and a luxurious lobby - all air conditioned. The cost of the folded plate and the supporting beams was \$1.36 per square foot of area. alley that has no support columns in the lane area.

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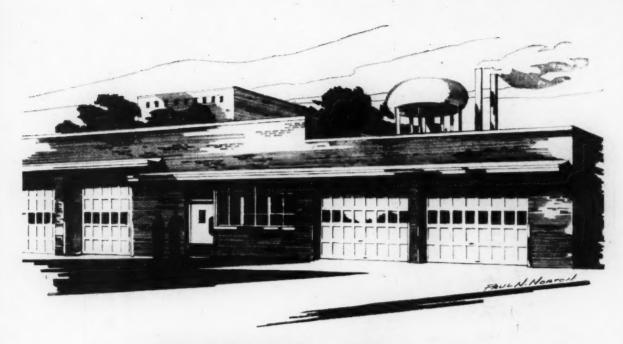
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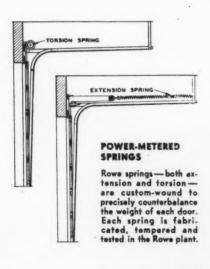


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The Record Reports

continued from page 278

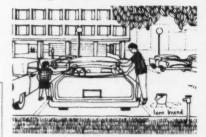
C.H.P.C. Report Finds New Housing Approach

A new approach to the design of lowrent public housing is revealed in a new publication of the Citizens' Housing and Planning Council of New York, Inc. Entitled "Housing Design: A Social Theory," the 32page report was written by Council consultant Elizabeth Wood, former executive director of the Chicago Housing Authority, under a grant from the Phelps-Stokes Fund.

The new approach is based on a theory of what kind of social structure is desirable in a project and how to use design to get it. According to the study, such a theory would be expressed almost exclusively in the design of the space outside the dwelling units—public spaces: corridors, lobbies, grounds and the non-dwelling facilities and buildings.

The social theory of housing begins with the needs of people, the author

suggesting five categories of needs that must be served outside the dwelling: need for active exercise; need for sunshine and fresh air; need to get "out"; need to go somewhere; need to do some household chores better done outdoors, such as washing the car.



The average public housing project, charges Miss Wood, serves these needs without richness or imagination, with the result that "resources for leisure time activities . . . are more limited than in the slums."

Four principles to guide the architect in design for social structure are suggested: 1) design for visibility, so that tenants seeing their neighbors, accept them, thereby diminishing the impact of one or a few undesirable families; 2) design for loitering in lobbies and in areas between buildings as a form of recreation; 3) design leading to the easy formation of informal groups, made possible by facilities calling for group use and by purposeful arrangements of benches and ground equipment: and 4) design for social controls, through which widespread acquaintanceships are promoted and a general recognition of a community of feeling about the project among tenants, with the result that tenants themselves take care of the property.

Among the recommended design features to encourage rather than deter freedom of action and tenant-to-tenant communication are: spacious exterior corridors, glass-enclosed, well-lighted lobbies suited to recreation or lounging, playgrounds for children of different ages located so mothers can exercise control, areas where teenagers can gather.

"Design," says the report, "can facilitate the social fabric out of which a tenant organization grows."

The illustrated report is available at \$1.00 a copy from the Citizens' Housing and Planning Council of New York, Inc., 20 W. 40th St., New York 18.

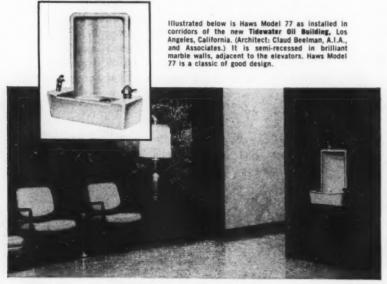
more news on page 286



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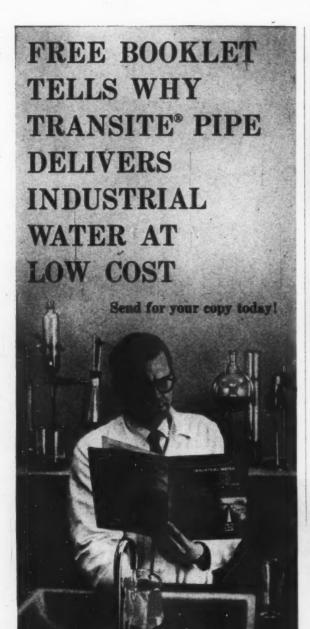
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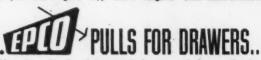
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The Record Reports

continued from page 282

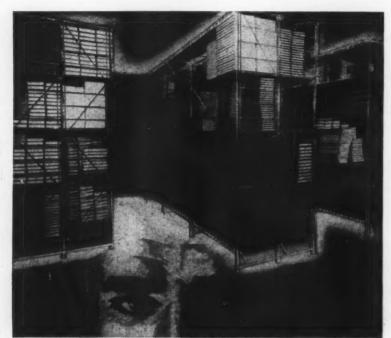
"House of Freedom": Experiment in Housing for Elderly

The "House of Freedom," an experimental demonstration home for the elderly, was opened at the White House Conference on Aging in January. Built in downtown Washington, D.C., by the Douglas Fir Plywood Association in cooperation with the National Retired Teachers Association and the American Association of Retired Persons, "Free-

dom House" had as its purpose focusing national attention on the specific housing needs of the elderly. It was shown to demonstrate what can be done in a single family dwelling unit. The sponsors felt it would stimulate better low-cost housing programs by private builders and public agencies.

The house was designed by D.F.-P.A. staff architect Robert B. Waring. Architectural consultant was Professor Alexander Kira, assistant

director, Housing Research Center. Cornell University, Ithaca, N.Y. Providing 888 sq ft of living space plus 392 sq ft in the garage and attached hobby room, the design of the house is characterized by a central courtyard. Windows around the court allow the owners to completely open its interior if desired. Carefully planned areas of glass, combined with an interior ceiling which follows the roofline in the living areas, and doors and hallways 6 in. wider than normal are intended to give a sense of spaciousness.



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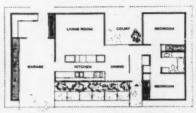
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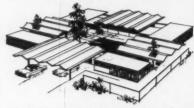


Floor plan of Freedom House

Features designed to make the house easy to maintain are: no window glass higher than 6 ft 8 in. from floor level; pull-down light fixtures to simplify bulb changing; easy-care floor and wall surfaces inside and out; and a sit-down kitchen.

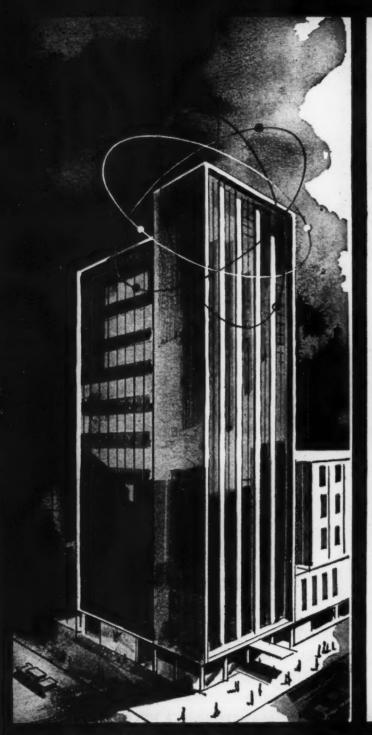
Other features are: no changes in level; electrical outlets 18 in. from floor; light switches and doorknobs a convenient 36 in. high; master light switches at both entrances and in master bedroom; high and uniform light levels; bathroom equipped with tub-seat and grabbars; nonskid surfaces on all floors.

It is said that House of Freedom is capable of a large number of architectural variations and of being combined as a duplex, "fourplex" or as a unit in row or tract housing.



"Fourplex" variation: Freedom House

The cost of the house is about \$9000, plus land, but according to those who produced the house, it should be possible to build it for less. Some of the finishes used in the demonstration house are more expensive than necessary, and the architectural continued on page 291



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ARCHITECTS: LOEBL. SCHLOSSMAN & BENNETT, CHICAGO





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The Record Reports continued from page 286

style is more costly than a simple version. It probably would be possible to reduce the cost to about \$8000 if the carport and hobby room were eliminated and if the roof treatment were adapted to trussed rafters. This would vary with local costs.

Construction techniques studied and recommended in this house can reduce on-site labor to a minimum. The basic plan is adaptable to a number of cost and time-cutting plywood building techniques, e.g. the builder fabricated entire plywood wall sections in the demonstration model and then simply tilted them into place. Other methods are panelization, in which walls, floors and roof can be assembled from preframed components of specific thickness and types of plywood; componentization, in which even larger "building blocks" go together at the site after being assembled under factory conditions. There are four basic alternates in floor construction, all utilizing the large size and strength of full-size plywood sheets, and all more economical and more practical than old-fashioned methods. They are: a method in which pre-framed 4 x 8-ft panels are simply fastened in place over girders 4 ft apart; 2.4.1 Tongue-and-Grooved panels, 11/8-in, thick plywood that acts as both subfloor and underlayment over the same girder system; stressed skin panels, "sandwiches" of two plywood layers, with heat ducts and lumber framing between; and conventional plywood subflooring and underlayment, which was used on the demonstration model.

Almost 5000 people inspected the house during the 3-day conference. Following its enthusiastic reception, Donald A. Jaenicke, D.F.P.A. special projects director, said, "It's obvious there's a big, diverse market here . . . for the tract builder . . . for the small local builder. It's also obvious that the market exists everywhere and that many people in the 55-plus age bracket can pay for what they want."

An "encyclopedia" of information on retirement housing that includes study plans for House of Freedom is available by writing to Douglas Fir Plywood Association, Tacoma, Wash.

more news on page 298

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The Leo A. Daly Company, having specified gas air conditioning for many of their clients, took their own advice when they designed their spectacular new home offices. For summer cooling, they chose Carrier absorption refrigeration, energized by the same gasfired boiler that heats in winter.

This puts their gas-fired boiler on a year-round paying basis. Full-time efficiency. The Carrier unit converts low pressure hot water into chilled water for cooling. Operation is quiet, vibration-free, automatic. And thrifty gas keeps fuel costs low.

New high in efficiency at partial loads! An exclusive Carrier solution-capacity-control gives partial load efficiency unsurpassed by any other type of cooling system. Add to this all the advantages of modern gas air conditioning: clean, circulated air, safety, dependability and unbeatable fuel economy.

For full-time efficiency in year-round air conditioning, specify gas and Carrier absorption refrigeration. Call your local Gas Company, or write Carrier Air Conditioning Company, Syracuse 1, N. Y. American Gas Association



"I like the way this unit automatically adjusts itself to varying leads I really can't think of an easier system to maintain," says Fred Ledes, Stationary Engineer, shown here at the 80-ton, gas-operated Carrier absorption unit, Leo A. Daly Building, Omaha, Nebraska.

FOR HEATING & COOLING on of Hts staff, Year-round air conditioning by Gas and Carrier absorption refrigeration. GAS IS GOOD BUSINESS!

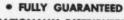


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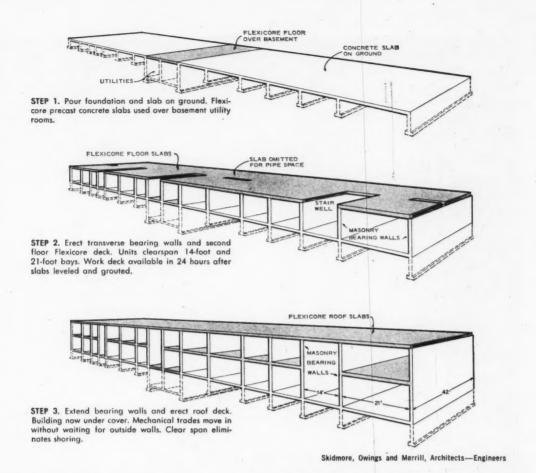
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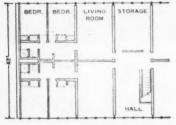


RESTORATION COMPANY .

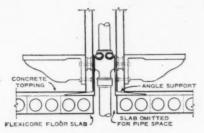
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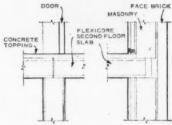
How Air Force Academy Got New Buildings Under Cover Quickly



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DETAIL - PIPE SHAFT



INTERIOR BEARING WALL END BEARING WALL

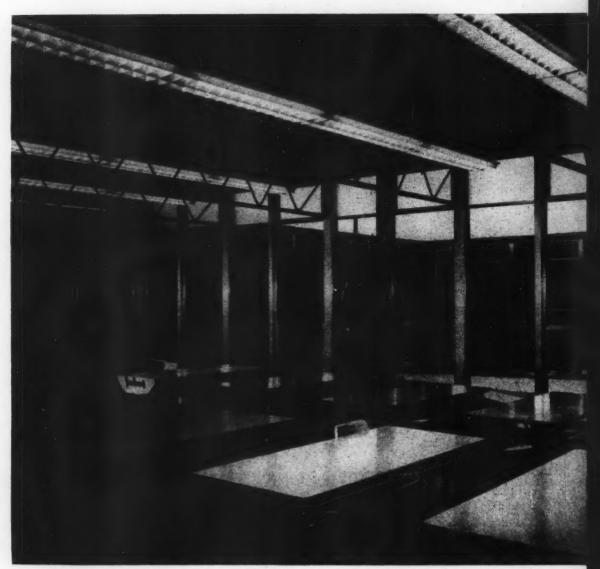


The Bachelor Officers' Quarters and Visiting Officers' Quarters at the new Air Force Academy have precast Flexicore floor and roof decks because they provided fast erection, a fireproof structure and a reasonable cost.

For more information on this project, ask for Flexicore Facts 84. Write The Flexicore Co., Inc., Dayton, Ohio, Flexicore Manufacturers Association, 297 S. High St., Columbus 15, Ohio, or look under "Flexicore" in the white pages of your telephone book.



295



Plenty of Pittsburgh Polished Plate Glass means more natural light, less eyestrain for Finneytown High pupils.

This school was designed with eyesight

Wherever you look around the Finneytown High School in Finneytown, Ohio, there's glass-PPG Glass that lets in *plenty* of natural light, adds an extra measure of beauty to the buildings, and provides an ideal learning environment.

Two PPG Glass products play a big part in making this school the bright, spacious place that it is: Pittsburgh Polished Plate Glass and Pennyernon® Graylite™14 Glass. Polished Plate Glass is used in areas that demand maximum light transmission where natural light is essential. Pennyernon Graylite is used where glare is a problem. Gray-

LITE 14 is heat-absorbing glass that has a pleasin neutral shade which is undetectable to occupants does not change outdoor colors, yet substantiall reduces glare that can be so hard on the eyes. I helps keep the school cooler and more comfortabl in warm months, too.

Inside and out, this is a modern, attractive school building . . . as beautiful as it is functional . . thanks to glass from PPG. For more information on PPG products, write Pittsburgh Plate Glas Company, Room 1162, 632 Fort Duquesne Blvd Pittsburgh 22, Pennsylvania.



Finneytown High School, Finneytown, Ohio Architect: Woodie Garber & Associates, Cincinnati, Ohio Contractor: Holt & Reichard, Norwood, Ohio



Pittsburgh Plate Glass products enhance the appearance and help make the Finneytown school a pleasant place to attend.

PENNYERNON GRAYLITE 14 reduces the sun's glare and helps make this school a cooler and more comfortable building during the warm months.



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Please send me without obligation, a folder illustrating and describing how Lucke Leak-proof Bathtub Hangers may be used with various type and size bathtubs.

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The Record Reports

continued from page 291

Ford Foundation Grants: Creative Arts Studies

The Ford Foundation is again offering a limited number of fellowships to assist persons not regularly associated with academic institutions to undertake or complete studies in the creative arts. Letters of application for consideration in this third year of the fellowship program should be submitted before Oct. 16.

Part of the broader Ford Foundation program in Humanities and the Arts which explores needs and opportunities in music, the theater, the visual arts, literature, the dance and other creative fields, the fellowships are for research and study. They are not designed to support advanced training, artistic creations, performances, or any projects not requiring research or study. In reviewing applications primary attention will be directed not to the art concerned but to the individual applicant and the potential significance of his contribution to others interested in the

Fellowships will not be made for consecutive periods of less than three months, and generally not for a period longer than one year. The amount of each fellowship will vary in relation to the applicant's estimate of cost, but in general will not exceed \$7500 for a 12-month period.

The fellowships for Studies in the Creative Arts are available to U.S. citizens who are not regularly members of academic faculties eligible for consideration under other fellowship programs designed to assist scholarly research and publication. Eligible for consideration are: creative artists wishing to undertake particular studies useful to others in their fields; curators, directors, conductors, and other persons associated with non-academic institutions in the arts, such as museums, theaters, and orchestras; and critics or laymen with particular interest in surveying artistic subjects.

For further information write The Ford Foundation, Fellowship Program for Studies in the Creative Arts, 477 Madison Ave., New York 22.

more news on page 306



SIMPLICITY

Superb in its simplicity...bold in its quality...dramatically down-to-earth in concept and design. Here is the sparkling new Series A730...double-hung aluminum window by the master craftsmen of Albro.

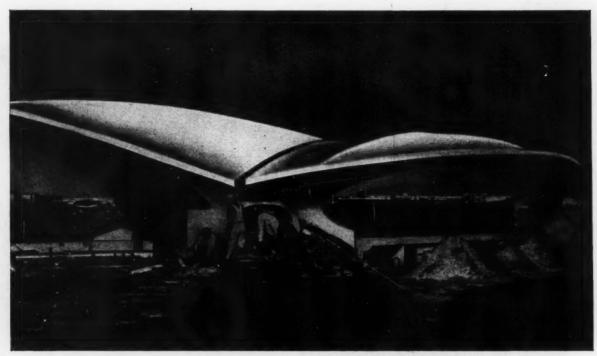
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944 Longfellow Avenue New York 59, New York



Architect: Eero Saarinen & Associates Consulting Engineer: Ammann & Whitney General Contractor: Grove, Shepard, Wilson & Kruge, Inc.

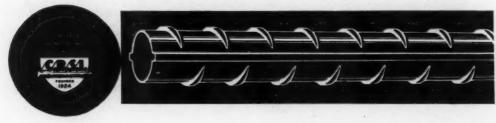
Imagine what You can create with REINFORCED CONCRETE

For structures of every type, creative architects know that monolithic reinforced concrete provides greater opportunity for individuality in building design and construction.

Suggestive of a huge bird poised for take-off, the new TWA Terminal Building at Idlewild Airport is a testimonial to the flexibility of this construction method. Its huge concrete shell roof is an arch cantilever design in four continuous monolithic reinforced concrete sections.

On your next project, design with greater freedom—design for monolithic reinforced concrete.

Concrete Reinforcing Steel Institute 38 South Dearborn Street Chicago 3, Illinois





New Pan American World Airways Passenger Terminal, New York International Airport.

Architects and Engineers: Tippetts-Abbett-McCarthy-Stratton, New York.

Associated Architects: Ives, Turano and Gardner.

General Contractor: Turner Construction Company.

SARALOY® 400

frees design from conventional flashing limitations, cuts flashing labor costs 25% for new air terminal

45,000 square feet of Saraloy 400 roof flashing provide hundreds of permanent moisture seals for this ultra-modern air terminal. Among the many critical flashing problems solved by Saraloy 400 were: sealing 875 acute and obtuse angles created by almost inaccessible junctures of structural steel beams and purlins; flashing steel-to-concrete joints and lining scupper holes.

The design of the terminal's elliptical cantilevered roof produced 144 different odd shapes and angles where beams, purlins and equipment housing shells meet. Flashing with conventional materials would require that each seal be specially cut and custom-fitted, often to match curved contours. The labor costs for installing metal flashing would have been prohibitive. Because Saraloy 400 could be quickly and easily cut and formed on the job, labor costs were about 25% less than the cost of installing conventional flashing materials. And each seal is permanent.

Saraloy 400 is Dow's brand of flexible roof flashing. It can be bonded to almost any construction material, such as concrete, wood, metal, ceramic, and it can be painted. It provides a permanent watertight seal which won't check, peel or crack . . . and which moves with building contraction and expansion. For more information write to THE DOW CHEMICAL COMPANY, Midland, Michigan, Plastics Sales Dept. 1501 N9.



Saraloy accomplishes difficult flashing of bolted girder-purlin intersection

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THE DOW CHEMICAL COMPANY

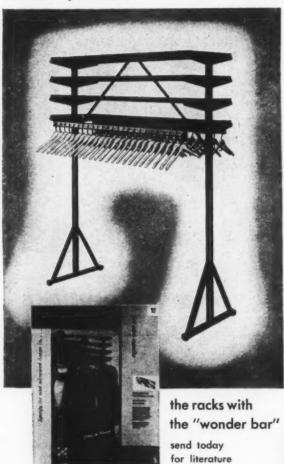


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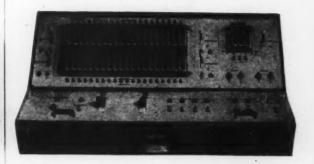


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Century's Control System

heart of the art of stage lighting . . .

Century, the largest manufacturer of electronic switchboards, offers its experienced engineering staff to assist architects and engineers in planning lighting control systems. C-CORE® units (Century's trade mark for back to back silicon controlled rectifier dimmers) are designed for flexibility, compactness and simplicity of operation. Of the many Century systems installed, the two-scene preset, shown above, with selective submastering permits the handling of many complex cues. This Century unit was recently installed at the Madison Township High School in New Jersey. Architect: Merchant, Seidel & Hickey / Engineer: Fred S. Dubin, Associates / Electrical Contractor: James H. Delaplaine, Inc.

Write for full descriptive literature



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4137

MARLITE Colors and Patterns Complement Any Interior!

Beautiful decorator colors. Authentic Trendwood® reproductions. Distinctive marble and design patterns. Marlite paneling, styled by American Color Trends, lends the right decorative touch for every interior. Walls of Marlite stay like new for years, yet require only minutes of care. Unlike many "finished" wall panels that dull with age and damage through use, Marlite's soilproof baked plastic finish shrugs off grease, stains, mars—even heat!

Quickly installed over old or new walls, Marlite offers almost unlimited decorating possibilities in remodeling or new construction. The large 4' x 8' panels or 16" x 8' planks are easy to cut and fit. They reduce your "in place" costs, help you meet promised completion dates.

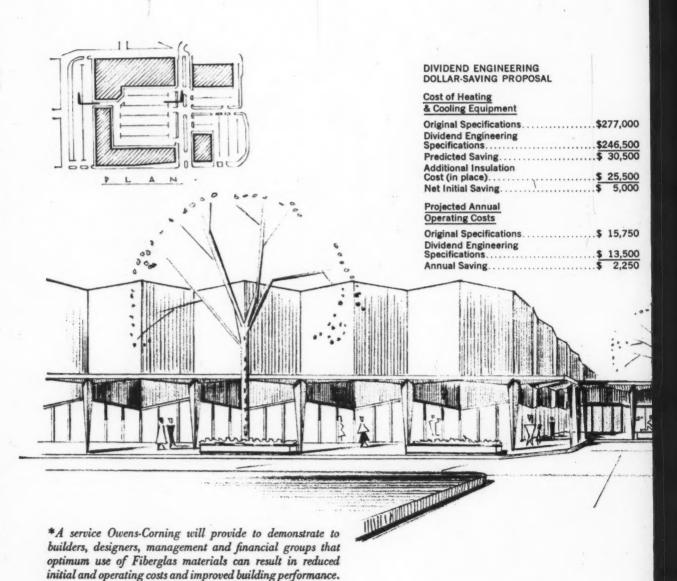
Get complete details from your building materials dealer, consult Sweet's File, or write Marlite Division of Masonite Corporation, Dept. 905, Dover, Ohio.

Marlite plastic-finished paneling
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DIVIDEND ENGINEERING

FORECASTS A \$30,500 SAVING ON EQUIPMENT AND \$2,250 IN YEARLY OPERATING COSTS AT NEW SHOPPING CENTER, NEW ORLEANS, LA.



A \$25,500 INVESTMENT IN ADDITIONAL INSULATION PREDICTS THESE SAVINGS:

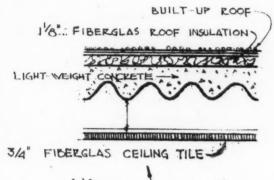
\$30,500 ON HEATING-COOLING EQUIPMENT

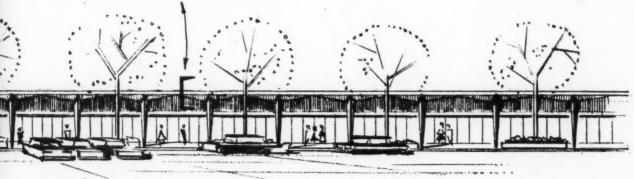
Original specifications called for a light-weight concrete roof slab and Fiberglas Perma Ply† Built-up Roofing. A Dividend Engineering analysis forecast that installing 11%" of Fiberglas Roof Insulation at a cost of \$25,500 would reduce the equipment cost by \$30,500—a \$5,000 net saving to the owner.

\$2,250 FORECAST SAVINGS IN ANNUAL OPERATING COSTS

Dividend Engineering calculations also forecast a \$1,361 saving in power for cooling, and another \$889 in heating costs.

Let us show you how Dividend Engineering forecasts a high return on the owner's investment, and makes the benefits of year-round air conditioning economically feasible for more and more industrial and commercial buildings. Just talk to your Fiberglas representative, or write: Owens-Corning Fiberglas Corp., Industrial & Commercial Division, 717 Fifth Ave., New York 22, or Santa Clara, California.





CARROLLTON AVENUE SHOPPING CENTER, NEW ORLEANS, LA.—HEATED AND COOLED

Architect: Curtis & Davis and Associated Architects

& Engineers, New Orleans and New York City.

Mechanical Engineer: H. C. Goldstein, New Orleans.

General Contractor: Gervais Favrot Co., New Orleans.

Fiberglas products used in this installation: Perma Ply Built-up Roofing;

Roof Insulation; Ceiling Board; Duct Insulation.

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The Record Reports

New Drawing Society Plans Program

The Drawing Society, a national foundation of art collectors, artists and museum curators, was formed last fall to inspire public interest in the art of drawing and to encourage high standards of draftsmanship among American artists, designers and architects. Its first president is James Biddle, head of the American Wing at the Metropolitan Museum of Art.

John Harris, of the Royal Institute of British Architects, is a member of the National Committee which includes directors and curators of 23 major museums in 15 cities.

The Society's program was inaugurated by a series of grants to American museums for the purchase of drawings.

Over the next six years, the Society plans to present a series of exhibitions entitled, "The Uses of Drawing," to explore the function of drawing in architecture, stage design, illustration and decoration.

"This emphasis on the uses of drawing," Mr. Biddle commented, "reflects our conviction that drawing is not only an independent art form, but the foundation of all visual arts."

Meeker Granted Danish Government Fellowship

David O. Meeker Jr., a principal in the architectural firm of James Associates, Indianapolis, Ind., has been granted a fellowship by the Danish government for a year's advanced study and research at a graduate school of the University of Denmark in Copenhagen.

The fellowship was one of three such granted Americans this year by the Danish government. Mr. Meeker will do advanced research in educational techniques for religious education and prepare a report for the Danish Ministry of Education in addition to his own program of study.

A graduate of Yale University, Department of Architecture, Mr. Meeker serves on the Architects Advisory Committee of the Metropolitan Plan Commission.



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Do you have an answer for Mr. Quibble?

Changing educational patterns demand flexible schools with learning spaces equipped for year-round air conditioning under unitary control—as an economic necessity based upon educational productivity for the life of the building.



Mr. Quibble is a well-meaning school executive.

He believes in air conditioning and would like to have it in his new school. But he is apprehensive about the opinions of board members and taxpayers. So he is apt to forego this basic requirement for maximum learning and build a school that will be sadly lacking through the coming decades. Only his architect and engineer can show him how to have air conditioning with proper regard for economy and without sacrifice of beauty and utility. The revolution in education is bringing a revolution in schoolhouse design predicated upon a fully controlled year-round environment in every learning space. Mr. Quibble's quandary is a challenge to your designing skill. Nesbitt—with a long experience in the school field—offers a slide film presentation, case studies, cost data, and many other services to help you give Mr. Quibble the right answer.

MORE LEARNING PER SCHOOL DOLLAR

Mesbitt AIR CONDITIONING FOR SCHOOL



Year-Round Syncretizer and Storage Cabinets . Made and sold by John J. Nesbitt, Inc., Philadelphia 36, Pa.

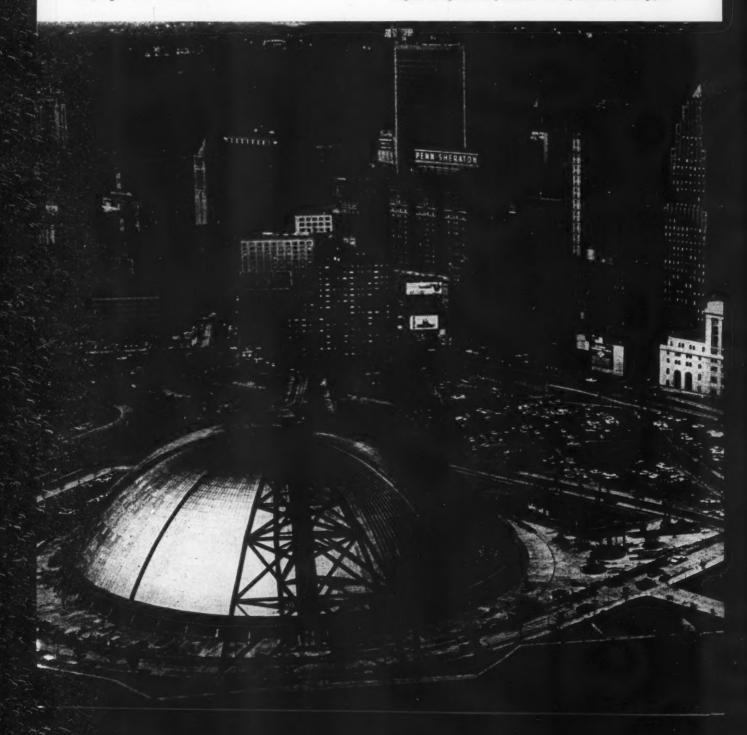


Only star performers in this arena

Because of the persistence of business and civic leaders, skillful engineering, and close cooperation of material suppliers, Pittsburgh can now boast of the world's largest dome and the only one that *moves*. The dome is as high as a 12-story building, 415 feet in diameter, and it's supported by a 1,400-ton steel tripod that holds the eight-leaved roof like a hand holding the top of a cap. Six of the eight leaves are free to roll back and let in a view of the sky. For theatrical performances, a section of 2,100 seats can be raised hydraulically to uncover a 114′ by 130′ stage . . . another first.

On the opposite page are three examples of how careful planning and quality building materials from Koppers helped the Public Auditorium Authority insure permanence and star performance from its world-famous Arena. They show how Koppers products can also give you greater design flexibility because they protect the basic construction materials. And this greater flexibility and permanence are frequently possible with lower initial costs and lower maintenance cost.

Architects: Mitchell & Ritchey, Pittsburgh, Pa. Owner: Public Auditorium Authority of Pittsburgh and Allegheny County. Executive Director: Edward Fraher. Resident Consulting Engineer and Superintendent of Construction: H. Rey Helvenston, Pittsburgh, Pa.





Sound traps keep the fans quiet

The auditorium's powerful ventilating system moves 130,000 cubic feet of air per minute—and to stifle the roar of the high-powered fans, the engineers installed 118 AIRCOUSTATS,[®] designed and manufactured by Koppers. The AIRCOUSTATS are located in the ductwork of air intakes and in the 24 huge metal pylons which discharge heated or cooled air into the

auditorium. AIRCOUSTATS' scientific sound-trap design muffles all frequencies of fan noise—but doesn't block the smooth passage of air. AIRCOUSTATS are economical. They're easy to install in new or existing ductwork and are permanent, trouble-free, sturdy, dust-free, and fireproof. For more information on completely quiet air circulation, check the coupon.

Pressure-treated wood provides light, strong, permanent anchor

Wood—one of the *oldest* construction materials, proved to be the *best* material for the vertical nailing strips that anchor the dome's stainless steel sheets. Wood is light, yet is strong enough to hold screws that attach the batten assemblies and prevent blow-off of the stainless steel sheets. Wood also provides insulation and prevents condensation within the blanket insulation. To make this wood as permanent as the roof itself, the 90,000 lineal feet of 2-by-2's were pressure-treated by Koppers. A chemical preservative was forced deep into the wood fibers where it gives permanent protection against moisture and decay.

In addition, Wolmanizer pressure-treated lumber was used in the promenade deck expansion joints. Non-Com* fire-protected wood was used to attach corkboard insulation for damping the vibration of the air-handling equipment. Check the coupon for information about wood that is pressure-treated for permanence.

*Koppers Trademark



Coal-Tar Waterproofing Pitch protects rooms under exposed promenade deck

An open, 50-ft.-wide walkway with a view of the Golden Triangle encircles the base of the dome. Thousands will walk on this promenade deck, which serves as a roof for exhibit and



meeting rooms below. To keep this section absolutely dry at all times, workmen applied a coat of Koppers Coal-Tar Pitch over the reinforced concrete base. Then, after a layer of rigid insulation, came five more applications of Coal-Tar Pitch with alternate layers of tarsaturated fabric and felt. Over this waterproofing, the patterned concrete walking surface was placed. The multi-ply membrane under the concrete walking surface prevents water penetration, spalling of concrete, and rusting of reinforcing steel. In fact, Coal-Tar Pitch is such a waterproof material that it is often used on roofs that are permanently flooded. Check the coupon for details on Koppers Coal-Tar Pitch for Built-Up Roofs and waterproofing.

These Koppers products for the building and construction industry bear directly on the problem of keeping quality up and costs down. They are either permanent in themselves or give permanence to other materials.

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To: Earl F. Bennett, Mgr.-Architectural Sales Koppers Company, Inc., Room 1322 Koppers Building, Pittsburgh 19, Pa.

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The nylon holding pawl quietly engages the strike, showing consideration to sensitive patients. Thoughtful selection of superior hardware always compliments superior buildings.





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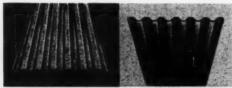


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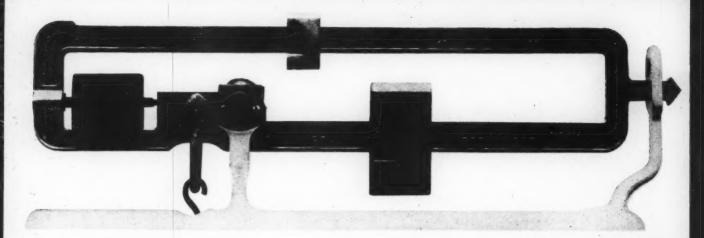
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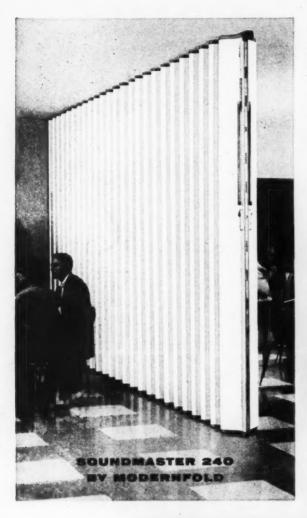


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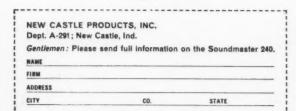
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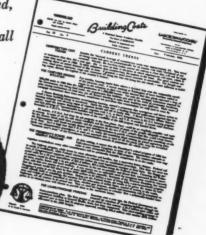
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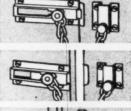
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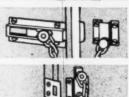


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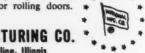
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